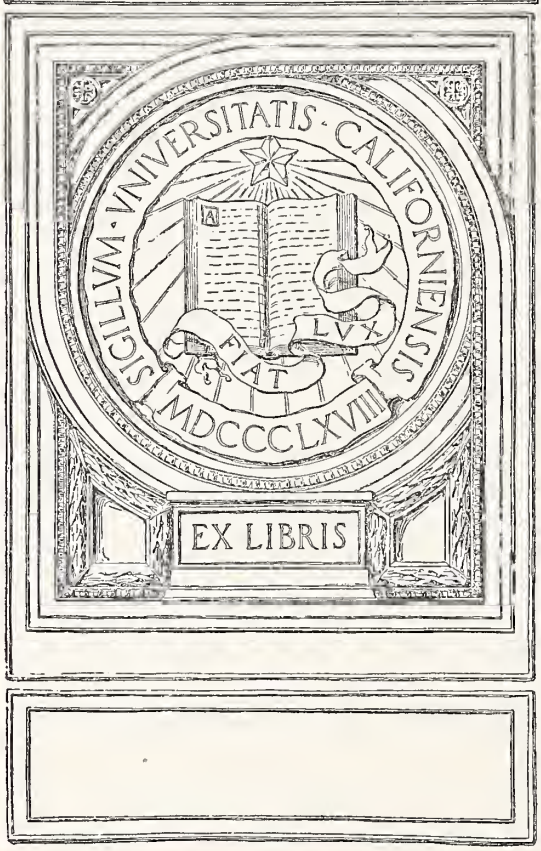
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Bibliography: (1) Scott, J. S., & Kellaway, P.: *M. Clin. North America* 42:415 (March) 1958. (2) Ganoug, L. D., in Green, J. R., & Steelman, H. F.: Epileptic Seizures, Baltimore, Williams & Wilkins Company, 1956, pp. 98-102. (3) Bray, P. F.: *Pediatrics* 23:151, 1959.

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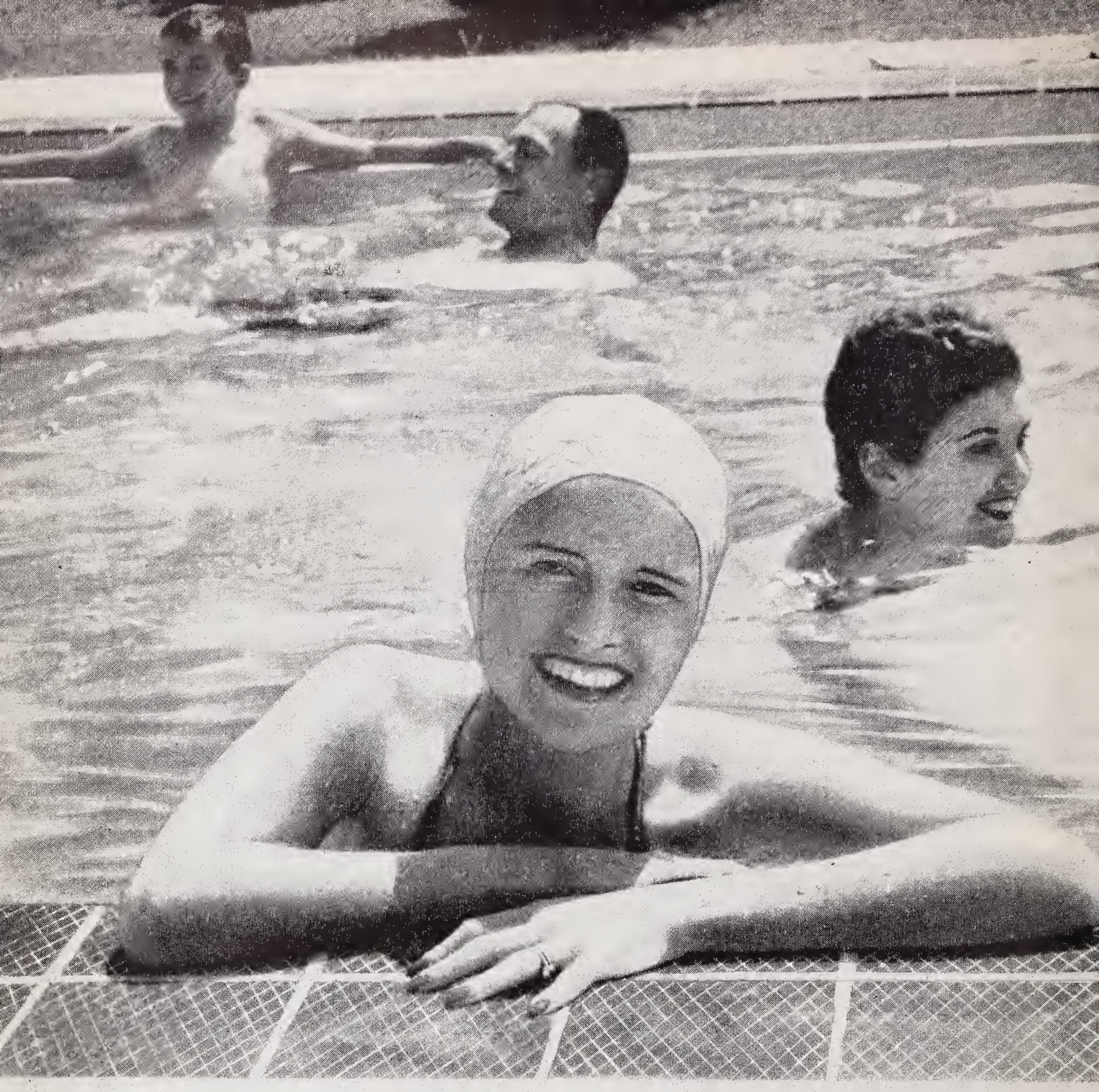
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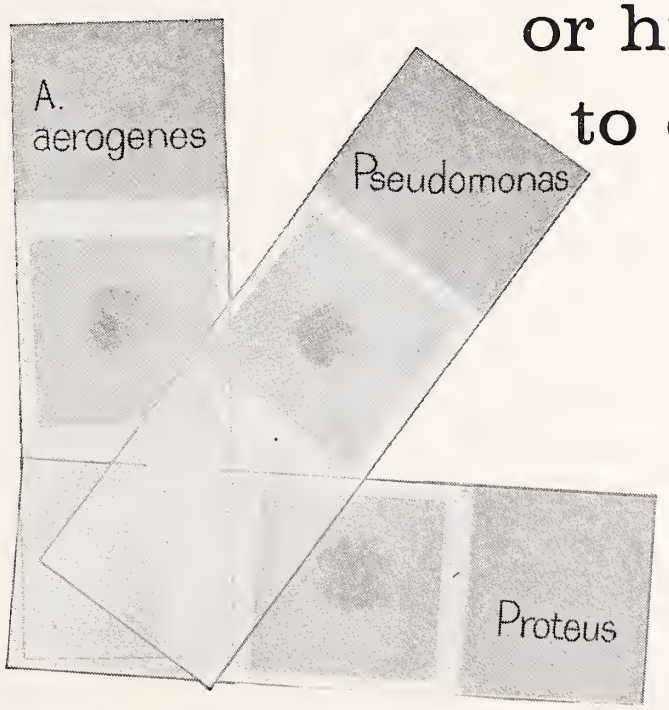
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In addition to the expected broad-spectrum range of effectiveness, DECLOMYCIN has demonstrated activity against strains of Pseudomonas, Proteus and A. aerogenes[1-4] unresponsive or highly refractory to other antibiotics.



1. Finland, M.; Hirsch, H. A., and Kunin, C. M.: Read at Seventh Annual Antibiotics Symposium, Washington, D. C., November 5, 1959. 2. Hirsch, H. A.; Kunin, C. M., and Finland, M.: **München. med. Wchnschr.** To be published. 3. Roberts, M. S.; Seneca, H., and Lattimer, J. K.: Read at Seventh Annual Antibiotics Symposium, Washington, D. C., November 5, 1959. 4. Vineyard, J. P.; Hogan, J., and Sanford, J. P.: **Ibid.**

Capsules, 150 mg. — Pediatric Drops, 60 mg./cc. — New Syrup, cherry-flavored, 75 mg./5 cc. tsp., in 2 fl. oz. bottle — 3-6 mg. per lb. daily in four divided doses.

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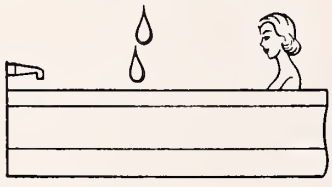
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for **dryness** and **itching,** prickly heat and rash
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1. Spoor, H. J.: N. Y. State J. Med., Oct. 15, 1958

SARDO acts promptly to help restore needed natural oil and moisture[1] to dry, itchy skin, by helping to re-establish the normal lipid-aqueous balance. Thus SARDO eases irritation, soothes, softens, brings sustained comfort.

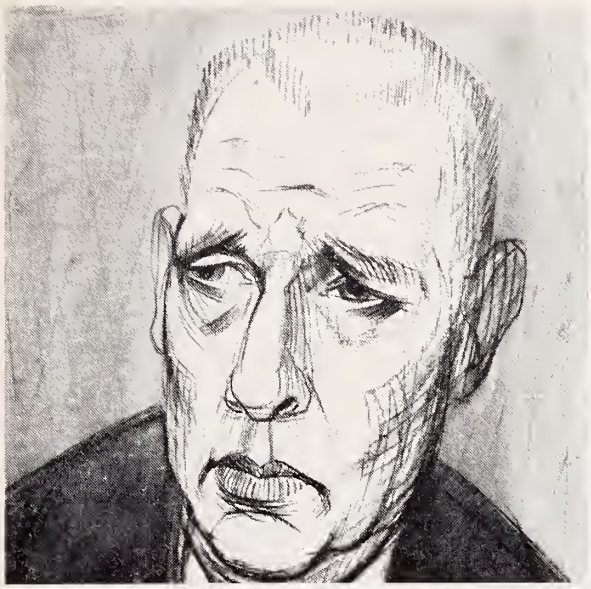
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brand of imipramine HCl



hastens recovery

Geigy

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Because of its efficacy as an antidepressant, coupled with its simplicity of usage, Tofrānil is admirably adapted to use in the home or office in these milder "depression-complicated" cases.

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A Vacation from Hay Fever is a Real Vacation

ANYWHERE – ANYTIME

Just a "poof" of fine **NTZ** *spray brings relief* IN SECONDS, FOR HOURS

NTZ is a potentiated, balanced combination of these well known synergistic compounds:

Neo-Synephrine® HCl, 0.5%
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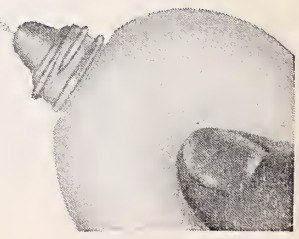
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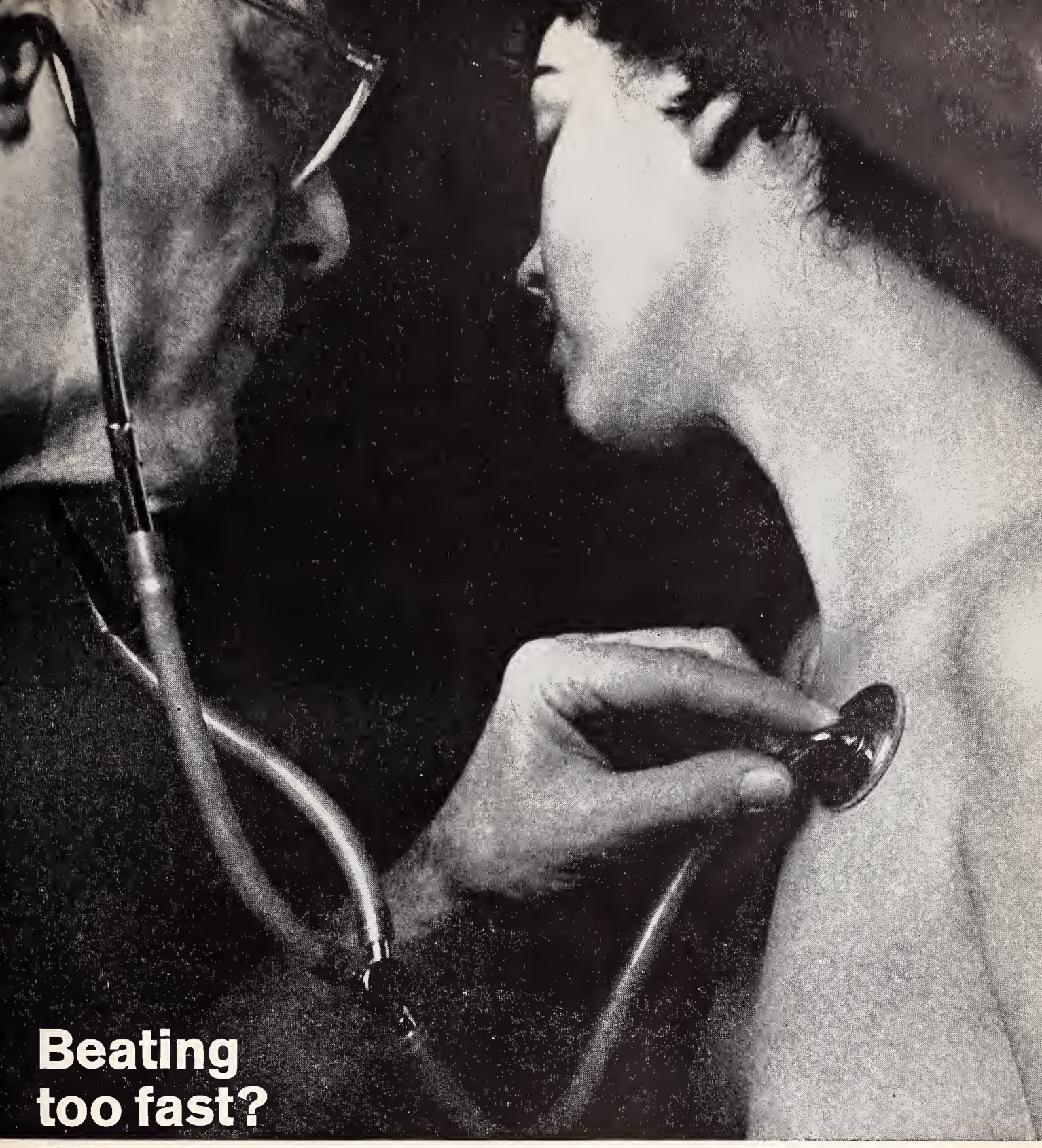
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Serpasil has proved effective as a heart-slowing agent in the following conditions: mitral disease; myocardial infarction; cardiac arrhythmias; neurocirculatory asthenia; thyroid toxicosis; excitement and effort syndromes; cardiac neurosis; congestive failure. Serpasil should be used with caution in patients receiving digitalis and quinidine. It is not indicated in cases of aortic insufficiency.

SUPPLIED: Tablets, 0.1 mg., 0.25 mg. (scored) and 1 mg. (scored). Complete information available on request.

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in over five years of clinical use and more than 750 published clinical studies

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for relief of anxiety and tension

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- simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation
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for the tense and nervous patient



Despite the introduction in recent years of "new and different" tranquilizers, Miltown continues, quietly and steadfastly, to gain in acceptance. Generically and under the various brand names by which it is distributed, meprobamate (Miltown) is prescribed by the medical profession more than any other tranquilizer in the world.

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Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; or as MEPROTABS*—400 mg. *unmarked*, coated tablets.

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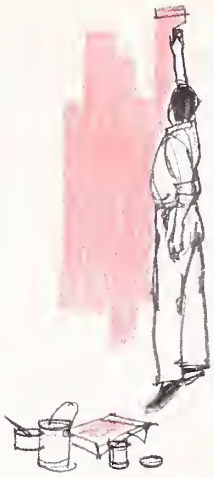
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when that early Monday morning telephone call is from a weekend do-it-yourselfer

"...and this morning, Doctor, my back is so stiff and sore I can hardly move."

now...there is a way to prompt, dependable relief of back distress

the pain goes while *the muscle relaxes*

POTENT — rapid relief in acute conditions

SAFE — for prolonged use in chronic conditions

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rapid action, sustained effect — starts to act quickly, relief lasts up to 6 hours

easy to use — usual adult dosage is one 350 mg. tablet 3 times daily and at bedtime

supplied — as 350 mg., white, coated tablets, bottles of 50; *also available for pediatric use:* 250 mg., orange capsules, bottles of 50

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THE ORIGINAL potassium phenethicillin

SYNCILLIN®

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BRISTOL



higher peak blood levels
than with potassium penicillin V

higher initial peak blood levels *orally*
than with intramuscular penicillin G

increased dosage increases
serum levels proportionally

superior to other penicillins
in killing many staph strains *in vitro*

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic and hospital:

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Complete information on indications, dosage and precautions is included in the official circular accompanying each package.

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DURATION



IN *ORAL* CONTROL OF PAIN

ACTS FASTER—usually within 5-15 minutes. **LASTS LONGER**—usually 6 hours or more. **MORE THOROUGH RELIEF**—permits uninterrupted sleep through the night. **RARELY CONSTIPATES**—excellent for chronic or bedridden patients.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit-forming. Federal law permits oral prescription.

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Also available — for greater flexibility in dosage — PERCODAN®-DEMI: The PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

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Salts of Dihydrohydroxycodeinone and Homatropine, plus APC

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*U.S. Pat. 2,628,185

doctors caring for infants and children

Enzylac

the milk that aids digestion looks like homogenized milk tastes like homogenized milk is homogenized milk — pre-digested with enzymes

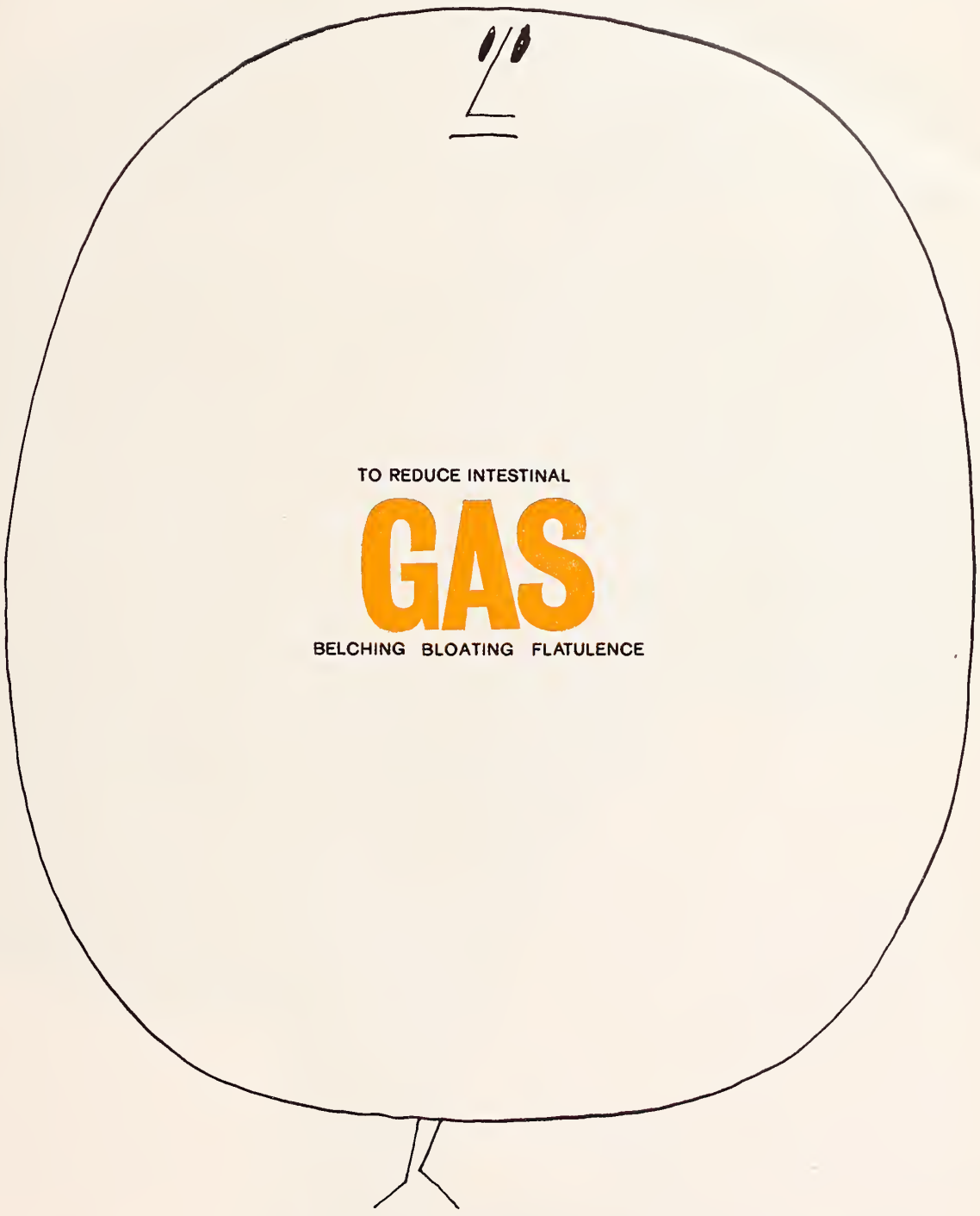
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A biochemical compound used to diminish intestinal gas in healthy persons and those patients having digestive disorders ■

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Each Kanulase tablet contains Dorase,* 320 units, combined with pepsin, N.F., 150 mg.; glutamic acid HCl, 200 mg.; pancreatin, N.F., 500 mg.; oxbile extract, 100 mg. Dosage: 1 or 2 tablets at mealtime. Supplied: Bottles of 50 tablets.

*DORSEY BRAND OF CELLULASE, EXPRESSED AS DIGESTIVE ACTIVITY UNITS.

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WITH MAXIMUM SAFE ANALGESIA

Phenaphen with Codeine provides intensified codeine effects with control of adverse reactions. It renders unnecessary (or postpones) the use of morphine or addicting synthetic narcotics, even in many cases of late cancer.

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Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.)

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Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

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Also —

PHENAPHEN In each capsule

Acetylsalicylic Acid 2½ gr. . (162 mg.)
Phenacetin 3 gr. (194 mg.)
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How many times have you heard a patient speak thusly? He just doesn't have the ready cash he needs for medical care — and his only alternative is to go on the hook for it, that is if he doesn't have Blue Cross-Blue Shield — the plan endorsed and sponsored by general hospitals and doctors like yourself.

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symbols of fine care



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STREET_____

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SIGNATURE_____

Send coupon to: BRISTOL LABORATORIES, SYRACUSE, NEW YORK.

SALUTENSIN samples available on request.

REFERENCES: **1.** Gifford, R. W., Jr., *In* Hypertension, ed. by J. H. Moyer, Saunders, Philadelphia, 1959, p. 561. **2.** Moyer, J. H.: *Ibid.* p. 299. **3.** Brodie, B. B.: *In* Hypertension, Vol. VII, Proceedings Council for High Blood Pressure Research, Am. Heart Assn., ed. by F. R. Skelton, 1959, p. 82. **4.** Wilkins, R. W.: Ann. Int. Med. 50:1, 1959. **5.** Freis, E. D.: *In* Hypertension, ed. by Moyer, *op. cit.*, p. 123. **6.** Ford, R. V., and Nickell, J.: Ant. Med. & Clin. Ther. 6:461, 1959. **7.** Fuchs, M., and Mallin, S. R.: Int. Red. Med. 172:438, 1959.

NEW

For the "multi-system disease"[2] HYPERTENSION...
an integrated multi-therapeutic antihypertensive...

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Hydroflumethiazide • Reserpine • Protoveratrine A

A multi-system disease such as essential hypertension often requires a multi-therapeutic approach for satisfactory control. SALUTENSIN combines in balanced proportions three clinically proven antihypertensives. These components act through three different physiologic mechanisms to offer greater therapeutic benefits while minimizing the risk of side effects sometimes observed in patients on single drug therapy at maximally effective doses. The components in each SALUTENSIN Tablet:

SALURON (hydroflumethiazide Bristol) — a saluretic-antihypertensive agent postulated to lower elevated blood pressure by affecting vascular reactivity to a still unknown pressor mechanism..... 50 mg.

Reserpine — a tranquilizing drug with peripheral vasorelaxant effects, which have been described as a "chemical sympathectomy"[3] 0.125 mg.

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INDICATIONS: Essential hypertension; hypertensive cardiovascular disease; insufficient response to a single or dual antihypertensive agent; partial or complete replacement of potentially more toxic agents.

SALUTENSIN should be used cautiously in hypertensive patients with renal insufficiency, particularly if such patients are digitalized.

DOSAGE: Usual adult dose 1 tablet twice daily. Detailed information on dosage and precautions in official package circular or available on request.

SUPPLY: Bottles of 60 scored tablets.

A sustained-action foundation drug for an antihypertensive regimen . . .

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SALURON is an economical, well-tolerated *salutensive* agent — saluretic and antihypertensive — for use as a foundation drug in the treatment of hypertension. In mild to moderate hypertension, SALURON often is adequate by itself. It has been described as "a distinct advantage in the manifestations of hypertension"[6] and "a marked advancement in the field of diuretic therapy."[7]

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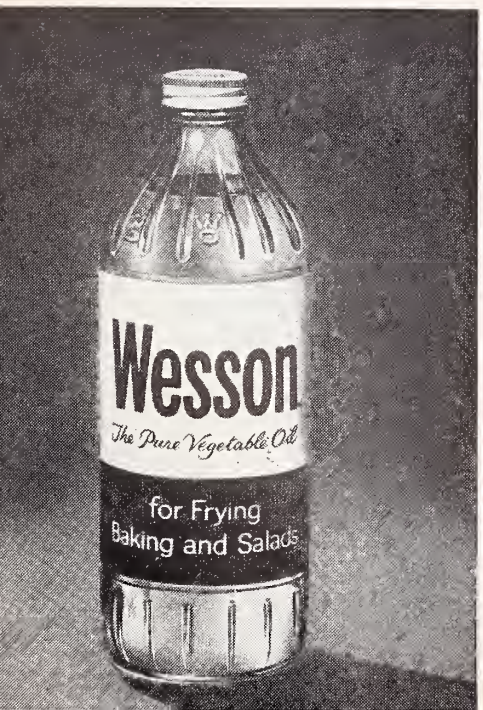
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Bristol

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A most appetizing help for patients where a cholesterol depressant diet is prescribed

Wesson's Chicken Cook Book
FREE in quantities
for your distribution to patients



The enticing variety of dishes offered in "*101 Glorious Ways to Cook Chicken*" can help make a restricted regimen less monotonous and encourages the patient's compliance with it.

The high poly-unsaturated fat content of poultry—prepared in poly-unsaturated Wesson—makes it a special help to those on cholesterol depressant diets. Happily, too, chicken is moderate in calories, universally popular and one of the most economical protein foods in the grocery today.

Recipes for Chicken Rosemary, Sesame, Jambalaya, Pilaf, etc., teach scores of new ways to enhance chicken with herbs and spices, new combinations with fruits and vegetables, how to use sauces and seasonings wisely and well. Careful consideration has been given to the choice of ingredients to keep saturated fats to a minimum.

Where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen, Wesson is unsurpassed by any readily available brand.



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Wesson is 100% cottonseed oil . . .
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Linoleic acid glycerides (poly-unsaturated)	50-55%
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Total unsaturated	70-75%
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Never hydrogenated—completely salt free

Each pint of Wesson contains 437-524 Int. Units of Vitamin E

Send coupon for quantity needed for your patients.

The Wesson People, 210 Baronne Street, New Orleans 12, La.

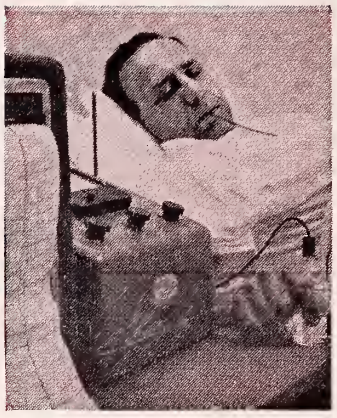
Please send me . . . free copies of the Wesson cook book "101 Glorious Ways to Cook Chicken."

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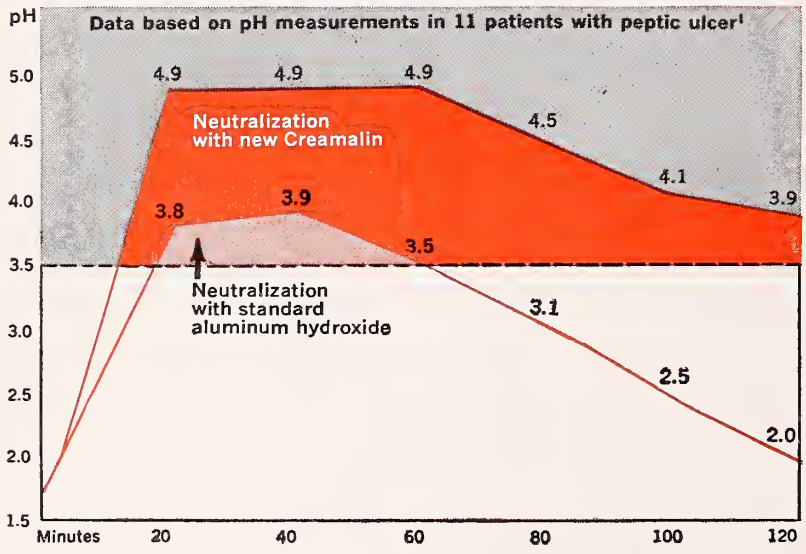
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At the site of peptic ulcer



Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



neutralization is much faster and twice as long with

New CREAMALIN® ANTACID TABLETS

New proof in vivo[1] of the much greater efficacy of new Creamalin tablets over standard aluminum hydroxide has now been obtained. Results of comparative tests on patients with peptic ulcer, measured by an intragastric pH electrode, show that new Creamalin neutralizes acid from 40 to 65 per cent faster than the standard preparation. This neutralization (pH 3.5 or above) is maintained for approximately one hour longer.

New Creamalin provides virtually the same effects as a liquid antacid[2] with the convenience of a tablet.

Nonconstipating and pleasant-tasting, new Creamalin antacid tablets will not produce "acid rebound" or alkalosis.

Each new Creamalin antacid tablet contains 320 mg. of specially processed, highly reactive, short polymer dried aluminum hydroxide gel (stabilized with hexitol) with 75 mg. of magnesium hydroxide. Minute particles of the powder offer a vastly increased surface area for quicker and more complete acid neutralization.

Dosage: Gastric hyperacidity — from 2 to 4 tablets as necessary. Peptic ulcer or gastritis — from 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed whole with water or milk, or allowed to dissolve in the mouth. **How supplied:** Bottles of 50, 100, 200 and 1000.

1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: **J. Am. Pharm. A.** (Scient. Ed.) 48:384, July, 1959.

Winthrop LABORATORIES
New York 18, N. Y.

for peptic ulcer ■ gastritis ■ gastric hyperacidity

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fulvicin™

GRISEOFULVIN

clears ringworm orally regardless of duration or previous resistance to treatment

spares the patient—embarrassment of epilation and skullcaps, difficulty and ineffectiveness of topical medications, potential hazard of x-ray treatments

S-425

access to the hospital and medical records involved. When he wrote his letter to the panel, the claimant waived for the purposes of the panel only his confidential relationship with the doctor involved and waived his privilege as to any hospital and medical records affecting the claim. So the panel has had the benefit of all the written material available.

When the parties have finished, the panel takes the facts before it under consideration, and attempts to answer the question: "Is there in the facts presented any subtsantial evidence of malpractice, as that term is defined by the Arizona Supreme Court?" Now, notice please, that we do not undertake to answer, "Is there any malpractice?" We undertake to answer, "Is there any substantial evidence of malpractice?" If it answers that question "No", then the panel goes no further. But if it answers that question "Yes", it undertakes to answer a second question, which is: "Is there in the facts presented any substantial evidence of substantial injury arising out of the malpractice?" "Is there any substantial evidence" again — not, "Is there any injury" . . . but, "Is there any evidence of it?" The panel then writes its answers to these questions, to the parties involved, answering "Yes" or "No". Now the theory of the plan is this: That if the panel answers "No" to both questions, the attorney involved will not file the case in court, at least in the absence of strong over-riding considerations, and that he will at least view the panel's decision in the greatest professional good faith . . .; on the other hand, if the panel answers the questions "Yes", the medical society undertakes to cooperate with the claimant in producing competent medical testimony to help him prepare for trial, and to help him in trial.

Now, that's all there is to the plan. It was the product of about two years of prior co-operative effort between the Bar Association and the Medical Society in Tucson, and I think that probably a climate of at least reasonable co-operation is necessary before a plan like this can even be started. We were lucky there, in that by and large, and barring the usual individual things that happen from time to time, the relationship between the two professional groups there has been a healthy one. In 1954, a committee was formed by the Bar Association to co-operate with the Medical Society in all kinds of medical legal problems, and in that same year, the Medical Society formed its own medico-legal committee. Since 1954, the two committees have worked together as one joint committee in many medico-legal problems. We have adopted in 1955 what you in Phoenix know as the Phoenix Plan, or the Cincinnati Plan, spelling out the obligations of the professional witness and spelling out the duties of the lawyer toward his doctor witness. That predated the adoption in 1957 of this Screening Panel Plan that I'm telling you about.

We were pretty well satisfied that the thing that was most on the doctor's mind all the time was the problem of malpractice. It has been the filing of malpractice claims that has caused most of what friction there is between the two professional groups. And in Tucson, we've never had any really serious problem. We get maybe four to six cases filed a year. But that's too many for the doctors, and they have a point.

We were pretty well persuaded, after looking the country over for about two years, that there wasn't any satisfactory plan then in existence. This plan that I've told you about in the beginning was the result of the co-operative effort between the Bar Association and the Medical Society to try to find some answer to this problem of malpractice claims.

If I may, I would like to read to you what the purposes of the plan are, because I want to make a point that is too often not made. I'd like to read it, right from the plan itself. The first two paragraphs of the plan are as follows:

"The fundamental purposes of this plan are two-fold, on the one hand to prevent where possible the filing in court of actions against physicians and their employees for professional malpractice in situations where the facts do not permit at least a reasonable inference of malpractice, and, on the other hand (I emphasize this) to make possible the fair and equitable disposition of such claims against physicians as are or reasonably may be well-founded.

"Both professional groups recognize that the mere filing of a malpractice action in court, however unjustified medically it may be, causes substantial harm to the reputation and the practice of the physician concerned. Both groups recognize at the same time that persons having legitimate and meritorious grievances against physicians have heretofore often encountered the greatest difficulty in substantiating their claims with expert testimony in court."

I read this to you to emphasize what must be emphasized, particularly before medical groups. The purposes of the plan are two-fold. The plan does not exist to prevent the filing of malpractice claims. It exists to prevent, if possible, the filing of medically unjustifiable malpractice claims and, equally, to insure that if the claim is justified the claimant will get a "fair shake" in court with medical testimony.

Now, does the plan work? I can't tell you. I can tell you what we've had. The plan was adopted in 1957 in February, by the Pima County Bar Association, and in May of that year, by the Medical Society there. Since the panel started to function in May of 1957, we have had 14 claims that have been referred to me, since I happen to be the Bar Association's chairman. Of those 14 claims, four have been withdrawn before the matter even got before the panel. And in all four cases, the plaintiff's attorney, once he got into the panel procedures, did enough checking to find out that he didn't have a case. Of the remaining ten, four have been withdrawn from the panel's consideration before a decision was actually reached. In one of those cases, the claimant withdrew the claim because he recognized, after doing considerable work with it before the panel, that it didn't have any medical or legal merit. And in the other three, all of which appeared, interestingly enough, to be justified claims, the claim was settled during the course of the panel's proceedings by the attorneys for the claimant and the defendant doctor. No lawsuit was ever filed. Six claims have actually gone to decision before the panel. Of those six, five have been decided for the defendant doctor, one for the claimant. This sounds at first blush as though the panel were heavily weighted in favor of the defendant. It isn't true. Nationally, the figures show that fewer than one-eighth of all malpractice claims that are actually filed in court actually result ultimately in a money recovery for the plaintiff. The doctors win more than seven-eighths. Of the six that we have had, the doctors have won five.

You may be interested to know that there have been two lawsuits filed since May of 1957 against doctors for malpractice. One of those was the claim that the panel favorably passed upon, and one was a claim that the panel did not favorably pass on but rejected. The lawyer filed anyway. There have been two claims, therefore, filed in court with all the attendant newspaper publicity and television publicity in Tucson, where as we believe that at least fourteen claims would have been filed had the panel not been in existence at all.

You may interested to know where medically these claims come from. One was against a specialist in eye, ear, nose and throat work. Three were against specialists in internal medicine. Five were against surgeons, either specialized or general surgeons, and five were against general practitioners. Of the six that actually went through to a panel decision, three, or 50%, were against general practitioners.

There are three principal sources, in our experience. (Please recognize, as I'm sure you do, that our experience is pretty limited, but I think it's fair sampling of the kind of thing that will cause you trouble.) Surgery — either faulty procedures or faulty techniques — is one of the principal sources of malpractice claims. Desertion, interestingly enough, by failure to respond to a telephone call, or by failure to attend the patient when you ought to be attending to him is the most common single source of malpractice claims in our experience. We have had three claims arising solely out of this desertion, failure to attend, and one in which it was collaterally involved to a very important degree. I think, however, that the one you ought to be most concerned about isn't either of these. It's the one that is now causing us the most difficulty, and the one which I am presuaded is going to cause you in the medical profession the greatest difficulty in the years ahead. That is the failure to warn your patient of the posible consequences, however, remote, of the procedure or therapy or drug with which you are treating him. You can reduce this thing to absurdities. On the one hand, the plaintiff says "Well, now, if I had known that a particular operative procedure might conceivably result in permanent paralysis I would never have consented to that particular procedure, however justified medically in my case it might have been." And he's got a point. On the other hand, the doctor replies, "We have to fight one war at a time. We have to treat the man's present condition with whatever procedures or techniques or drugs are best fitted to the treatmcnt of that condition. And if we have to go ahead and warn every patient of all the remote, highly speculative and highly contin-

gent possible consequences of everything we do, not only will we never treat a patient, but the actual warning may in more cases than not do more harm than the therapy itself would have done."

I think that among the doctors who have participated in Tucson on the panel and who are closely allied to this Pima County Plan, so-called, it is this kind of case that is causing the most loss of sleep. And it's a real problem. I don't know what you're going to do about it. I don't know that there is any answer.

The problem is with you. The failure to warn has caused three cases to be brought before the panel out of fourteen. One of those cases is one which subsequently went on to court and is pending in the Superior Court of Pima County now against the doctor, a drug corporation and various assorted paramedical personnel. And since I'm involved in it, I can't comment on it except to tell you that it is pending. This, over the nation right now, should be the greatest single cause of medico-legal concern to the medical profession.

I might point out to you that in most of the claims that have come before us, practically without exception, the claim itself, that is, the claimant's dissatisfaction with the doctor, has been caused directly or indirectly by some remark made by either medical or paramedical personnel. Now, it figures, gentlemen, there is probably going to be a malpractice suit filed, whatever the merits of it, if the man who has just performed an operation walks out of the operating room and in the presence of the claimant's husband says, "Boy, I sure botched that one!" And it also follows that there's going to be a claim — against somebody — if the first time you examine a new patient you say to that patient, "My good God, what butcher has been treating ou?" Now, neither of those are fictitious illustrations, amazing as it may sound to you. They have already occurred within the very limited experience of our panel. You can trace every claim, with few exceptions, to ill-advised remarks gratuitiously made by medical and paramedical personnel.

What can you do to avoid a malpractice lawsuit? The only frank answer I can give you is — be lucky. I only know one good malpractice story, and I keep hopefully telling it in the thought that some of you may not have heard it from Dr. Chesser, of Tucson, which I think illustrates this point. There was a doctor up in Burlington, Vermont, named Smith, who had practiced there for many years and was a pillar of the medical community. He had a patient in the advanced stages of a degenerative disease. The patient was a hard-headed Yankee and a realist and wanted to know what was going to happen to him. The doctor told him that he was going to die, and very shortly. The plaintiff was a man who wanted his affairs to be meticulously in order, and he said, "All right, but when?" The doctor said, "You're going to die in a month." So the New England farmer went out and had a tombstone prepared on which were engraved his name, the date of his birth and the date of his anticipated death. And the day of his anticipated death came and went. Because Dr. Smith's skill had kept him alive over the month, he sued Dr. Smith in malpractice for the value of the ruined tombstone, since the date had come and gone, and the stone could no longer be used. The case went to trial before a jury, and the claimant won the value of the tombstone. I have said before that the only way to avoid malpractice claims is to be lucky. Now, as it happens, in that case, Dr. Smith was a highly intelligent man, and from that day forth in Burlington, when Dr. Smith said you were going to die, you died.

I commend it your attention.

Has the Pima County Plan worked? I can't give you an answer. We do think that in the two years plus that we have worked with it, it hasn't yet failed. Whether it will work over an extended period of time, we frankly don't know. We think it may. Thank you.

Question from the floor: I have reference to, you mean, that once the doctor has accepted the patient, then he is responsible for the particular telephone call or that he is too busy and can't get there.

Mr. Lesher: Yes, sir.

Questioner: But, I would like this clarification — if the patient calls the doctor and gives symptoms of the child — and the doctor has never seen that child — and refuses to give any advice unless the mother brings the child to the office. This is not desertion?

Mr. Lesher: I would have to make a two-step conclusion there. One, I think is justified. The conclusion is that in that case the patient-physi-

cian relationship had never been established. That's a question of fact entirely. From the circumstances that you gave me, I'd say probably there had never been this relationship established. And I can tell you as a matter of law, that if that is true, if the relationship of doctor and patient has never been established, then you cannot be guilty of malpractice in any form toward that particular patient.

Question: Suppose the doctor had seen this child six months before so that the doctor-patient relationship had been established, and now six months later, the mother calls and wants advice over the phone — for a condition which had nothing to do with the condition for which the doctor saw the child patient six months before. And the doctor says, "I'm sorry, but I can't advise you over the phone. Unless you bring the child in, I will not give you any advice." Then the mother does not bring the child in Can you answer that?

Mr. Lesher: I can tell you that the exact fact situation, except that the patient was not a child (it was a mature man with a heart condition) has come before the panel. The difficulty with things like this is that they are questions of fact, and you have a tendency to get conflicting versions of the evidence. And, one thing that this panel can't do is sit as a jury. If this panel starts sitting as a jury, you're dead, gentlemen, because no plaintiff's lawyer in his right mind is going to submit his medico-legal case to a jury composed wholly of physicians. It sits, more or less, . . . and I don't know how familiar this language will be to you . . . it sits in a position analagous to that of a trial judge ruling on a motion for a directed verdict. Now, that's the best I can do for you. In your particular case, the chances are that there was no physician-patient relationship established. But more importantly, in that situation, even had there been a physician-patient relationship, it doesn't necessarily follow that the refusal to treat over the telephone is malpractice. As a matter of fact, it may be malpractice to *treat* over the telephone. That is the opinion of many, I think of most medical men that I know, and I've heard on the subject. Even when you establish the relationship — if you give me as a matter of fact that the person who calls is the doctor's patient — you still have this question: Is it malpractice to do what the doctor did? Is it a deviation from the accepted standard of care in the community? Now, generally, from what you tell me, I would say you were probably going to get the answer from your doctors that that is not a deviation from the standard. You don't have a malpractice case just because you have the relationship existing. There must also be, in addition, the crucial fact that the doctor has done something he should not have done, or he has omitted to do something that he should have done, and what he should or should not have done depends on the standard of medical practice in his own community.

Question: In the work that you have done so far, have you run into the problem of very complete hospital records being used against the doctor himself?

Mr. Lesher: Yes, sir.

Questioner: I ask you this because very complete hospital records sometimes change for a man testifying against himself when he writes that record and isn't it a known fact if you avoid writing anything down on a record as the hospital requires you to do that you might actually *save* yourself a *lawsuit* on occasion?

Mr. Lesher: I can conceive of circumstances in which that is true, sir, but I will tell you this. Our experience has been that the greatest safeguard to the careful and conscientious doctor is the maintenance of complete and adequate records. Now I would say to you "If you are a bad doctor, for heaven's sake, don't keep records!" On the other hand, if you have done your job medically, and the plaintiff's case against you is hearsay, as it usually is, or misinformation, as it very often is, then the maintenance of complete records, not only in the hospital but in your office, is the greatest safeguard you can have. Our panel has thrown out more cases against doctors simply because the doctors' records indicated specifically and clearly that there wasn't any claim, than for any other reason.

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Cervical Smears: Some Practical Considerations*

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WHEN MacCarty, in the 1920's, was busy studying the cytology of malignant cells, and Broders was searching for examples of what he was later to call "in situ carcinoma," pathologists were not ready for the concept that cancer "without roots" was an entity. It remained for Papanicolaou, in the early 1940's, to prove that carcinoma cells which had been shed or exfoliated from malignant neoplasms growing on a free surface could be identified as such by a study of smears made from the zone of involvement. Most important was his demonstration that material shed from in situ tumors was fully as diagnostic as that obtained from the surfaces of advanced lesions.

This was a new method that could be used for the detection of early malignant lesions, and a stampede for the discovery of such tumors ensued. Every conceivable bodily orifice was swabbed, scraped, washed, siphoned, aspirated, brushed or massaged for its maximal yield of exfoliated cells, some of which might be malignant. Studies were conducted in which the efficacy of smears was compared with that of biopsy. The problems of "false positive" and "false negative" smears were much discussed. Theoretic and actual relationships between in situ and clinical carcinomas were explored statistically and otherwise. Terms like "pro cancer" were born in an attempt to explain the occurrence of "suspicious" smears of dubious cellular parentage. A sifting of much literary chaff from this exploratory period reveals, among other grains of truth, the fact that cervical carcinomas can be detected through a study of smears, and that such studies give almost 100 per cent positive results during the in situ stages of such lesions.

THE IN SITU CONCEPT

The poor results attending attempts to cure malignant tumors of the cervix are known to all. The outlook is such that perhaps one woman in five who is suffering from this dread disease has a life expectancy of 10 years. In this country alone, some 18,000 women, many of them young, die annually from its effects. Yet many investigators are convinced that each overt carcinoma of the cervix is preceded by an in situ stage lasting from 5 to 20 years. An imposing number of these lesions have been followed by design or by accident from the in situ stages into the invasive and fatal forms; in situ and invasive cervical carcinomas have been observed side by side; patients whose in situ cervival carcinomas have been treated by minor operations, such as cauterization or conization, have invasive carcinoma so rarely in later years that the existence of a sequential relationship appears inescapable. For doubting Thomases, the fact remains that 5 per cent of the invisible cervical cancers discovered by the use of smears prove to be dangerous infiltrating growths when subjected to complete examination at the time of hysterectomy.

SMEAR VERSUS BIOPSY

I believe that there is no comparison between the efficacy of smears and that of routine biopsy methods in discovering early carcinoma of the cervix. From 1932 to 1946 at the Mayo Clinic, where the entity of in situ carcinoma was named

*Read at the meeting of the Arizona Division of the American Cancer Society, Phoenix, Arizona, January 14 to 16, 1960.
†The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

and described and where we were perhaps performing unnecessary biopsies in the search for such lesions, my colleagues and I found 32 cases. During the year 1959 alone, using smears in a screening procedure on the same cross section of clinic patients, we uncovered no less than 160 cases. Currently, six of every 1000 normal-appearing cervices prove to be cancerous when examined cytologically.

The detection of these early lesions, which are eminently curable by more or less conservative surgical procedures, is no longer an expensive program capable of being undertaken only in large and well-equipped medical clinics. Every doctor's office can, and should be, a cancer-detection center in which the making of cervical smears is an integral part of all routine pelvic examinations. It is a test concerning which better-informed patients are well aware. To deny it to them, and possibly to others as well, is perhaps to neglect an extremely useful laboratory examination for malignant tumors.

The comments thus far have been confined to carcinoma of the uterine cervix. What about the detection of malignant tumors of the endometrium or even the vulva by cytologic study of smears? It is my opinion that, in attacking the problem of carcinoma of the cervix in the manner to be described, one is achieving the greatest possible yield of positive results, considering the time and effort required to maintain a large screening program. Carcinomas of the uterine fundus are rarely asymptomatic; they occur in older women, and their routine detection by curettage leads to a satisfactory rate of cure, since the lesions usually are well differentiated and slowly growing. The early discovery of malignant tumors of the vulva, vagina, fallopian tubes and ovaries likewise does not depend on a study of smears.

TECHNIC OF MAKING SMEARS

A satisfactory and efficient method of making smears directly from the cervix rather than from the vaginal pool is as follows. The instructions to the patient are simple. She should be directed not to take a douche during the 24-hour period before the smears are made. Any procedure that washes away desquamated cells is bound to increase, however slightly, the likelihood that these cells will not find their way to the smeared slide.

The following directions should be carefully observed by the clinician:

1. Do not use lubricant on the speculum, since the presence of extraneous material on the smeared slide makes examination of the latter impossible. The speculum may be warmed and moistened with tap water.

2. Gently wipe excessive secretions from the external cervical os with a cotton applicator.

3. Using firm pressure, rotate the special wooden spatula around the external os, being certain to obtain scrapings from the squamocolumnar junction.

4. Smear the scrapings quickly and evenly on a glass slide and, without a second's delay, immerse the slide in a jar of fixative (95 per cent alcohol or an ether-alcohol mixture). Under no circumstances permit the secretions to dry on the slide prior to fixation.

5. Label the slide and container accurately. If the slide is to be mailed out of town, allow 15 to 20 minutes for fixation. If it is to be examined locally, transport it immersed in the fixative until it is ready for staining.

6. For maximal yield, make smears on all women more than 25 years of age and from those younger women who have abnormal-appearing cervices. Avoid taking smears while the patient is actively menstruating.

7. Do not biopsy the cervix at this time. Above all, carefully unplug the office cautery.

The materials needed for making cervical smears are indicated in the accompanying figure.



Equipment needed for making cervical smears for cytologic study.

ROLE OF THE PATHOLOGIST

The further processing and the interpretation of the smears belong in the province of the pathologist, whose role in the detection program is

predicated on three assumptions, namely that he (1) believes in the entity of in situ carcinoma, (2) is familiar with the interpretation of smears and (3) has help. Each of these items requires clarification.

It is utterly useless and twice as confusing to embark on a screening program using smears to detect early carcinoma of the cervix if tissue taken at biopsy from patients with positive results of cytologic study of smears is diagnosed routinely as showing chronic cervicitis, dysplasia, metaplasia or basal cell hyperactivity. In situ carcinomas, uncovered by the smear technic, should comprise 95 per cent of the total. It is thus well to be sure of the man behind the microscope.

Difficulties concerning pathologists who may be unfamiliar with interpretation of smears are being overcome by the American Board of Pathology, whose requirements are such that its diplomates must be familiar with cytologic methods. Many of the older pathologists, through self-teaching, careful study of the voluminous literature and attendance at courses on exfoliative cytology, have learned how to become key members of the screening team.

The problem of help for a busy pathologist continues as the biggest stumbling block in instituting these valuable screening programs. Each cell in every slide must be individually viewed and appraised, and a minimum of 15 minutes is required to screen a single slide. Making two slides on each patient merely doubles the magnitude of the task without adding significantly to the positivity of the end results. Cytologic examination of 25 to 30 slides by one person each day approaches the maximum of visual endurance.

The use of trained technicians as cytologic scanners provides the most logical solution to this bottleneck. After three months of special training, such technicians are capable of staining and scanning smears at the rate of 5000 per year. About 4800 of these routine smears will be unequivocally normal. An additional 100 will contain cells that the technician has marked and that will cost the pathologist many hours of toil and sweat before he gingerly consigns them to the negative category. There let them rest while the remaining 100 smears are considered.

It is well to re-emphasize at this point that all these smears are being taken from cervices that are for the most part grossly normal. Physicians should not waste time and effort by taking smears from lesions that appear to be neoplastic and for the diagnosis of which routine biopsy methods alone are indicated. Only at the initiation of the program does one need to accumulate data from smears on known clinically malignant lesions. Interestingly enough, smears made from such tumors, which are frequently infected and necrotic, are often less clearly positive for malignant cells than are preparations made from the in situ precursors.

FURTHER STUDIES

Let us return to the worrisome residue of 100 smears. These will be reported variously as being "positive" or "suspicious" for malignant cells. The follow-up task of uncovering the tissue source of these cells goes back to the physician and his examining table. Using Lugol's solution as an aid in delineating the squamocolumnar junctional zone, the area in which most cervical carcinomas have their beginnings, he removes from this zone two to four pieces of tissue cut deeply enough to ensure proper orientation when they are embedded in paraffin. These pieces of tissue are placed in a small bottle containing a 10 per cent solution of formaldehyde and are sent to the laboratory. The taking of tangential "shavings" in lieu of such visible wedges is to be condemned. Minor bleeding may occur at this point, but anyone experienced enough to perform cervical biopsy knows how to bring about its arrest without committing the unpardonable sin of using the office cautery at this juncture. If study of the smear gives positive results, carcinoma of the cervix is almost certainly present. However, the clinician may have missed it in the biopsy samples. To cauterize the cervix at this point is, in many instances, to destroy the very evidence that one is attempting so carefully to assemble.

In perhaps 50 of these 100 worrisome cases, the pathologist within 24 hours reports the discovery of carcinoma, apparently in situ, in the material obtained at biopsy in the physician's office. In 25 additional cases, he may be satisfied that the presence of basal cell hyperactivity accounts adequately for what he has reported previously on the smear as suspicious cells. While happy in these instances that office biopsy was performed and the expense of hospitalization for conization avoided, he probably will recommend that these 25 patients be followed

with yearly examinations of smears. Perhaps in one or two patients he may find that the invisible carcinoma was in fact an infiltrating lesion; again, these patients have been saved the expense of a surgical operation, for irradiation may be the treatment of choice for such early but infiltrating cancers. In the remaining group of about 25 patients, he finds nothing at this stage to explain the positive smears.

Conization Biopsy and Further Treatment. — The 75 to 77 patients whose cervices require further and immediate investigation are hospitalized for conization biopsy. This includes the 50 to 52 patients whose specimens disclosed carcinoma and the 25 in whom biopsy failed to reveal the source of the "positive" smears. Here, a word of caution must be addressed to the surgeon. Some of the carcinomas in this latter group of patients are so small that they have been missed during office biopsy. Too vigorous scrubbing of the cervix during the course of preoperative preparation of the vagina may cause the pinhead malignant focus to find a resting place in the hamper of soiled linen rather than under the objective of the microscope. Similarly, the preliminary performance of an utterly useless and uninformative dilation and curettage at this juncture definitely is contraindicated. What the pathologist is seeking in these cases, sometimes prayerfully, is a generous cone of cervical tissue undisturbed by any preliminary manipulations. This cone should extend from a base at least 1 cm. beyond the squamocolumnar junctional zone to an apex at the endometrial cavity. It should be removed in one piece with a sharp scalpel. Under no circumstances should the cone be procured by a curet or other instrument designed to "piecemeal" the tissue.

In our laboratory, because of the routine use of fresh frozen sections, we can cut, stain, mount and examine material from 12 sections of these cones in as many minutes and report the findings to the surgeon. If the frozen-section technic is not available, it may be necessary to defer diagnosis for 24 hours or more until the material has been prepared by the paraffin method. In either instance, the pathologist may be expected to discover one or more foci of cervical carcinoma in the vast majority of cases. More than 90 per cent of the lesions will be in situ; thus, if conization of the cervix happens to be the surgeon's favored treatment, the patient will not need another operation. Some surgeons have had the experience of encountering recurrent carcinoma in situ after such minor sacrifice of tissue and, therefore, may elect to perform vaginal hysterectomy. About 5 per cent of the conized lesions will, surprisingly enough, reveal early carcinomatous infiltration, and the problem of radiation therapy versus radical hysterectomy will present itself. Residual neoplasm will not be detected in the surgically removed cone in perhaps 25 per cent of the cases in which biopsy done in the office revealed carcinoma in situ. There are various reasons for this; the tissue taken for biopsy included all of the tumor, the cervix perhaps was touched with the cautery to control bleeding, the uterus was curetted prior to conization, or the pathologist perhaps did not examine the cone thoroughly enough.

Curettage. — Finally, subsequent curettage is necessary for those patients in whom negative results are obtained on both biopsy and examination of the excised cone. This must be done in order to rule out the possibility of endometrial carcinoma before the smear is finally and sorrowfully classified in the categories of "false positive" or "false suspicious." It is a rare pathologist who does not harbor both these skeletons in his closet.

SUMMARY AND CONCLUSIONS

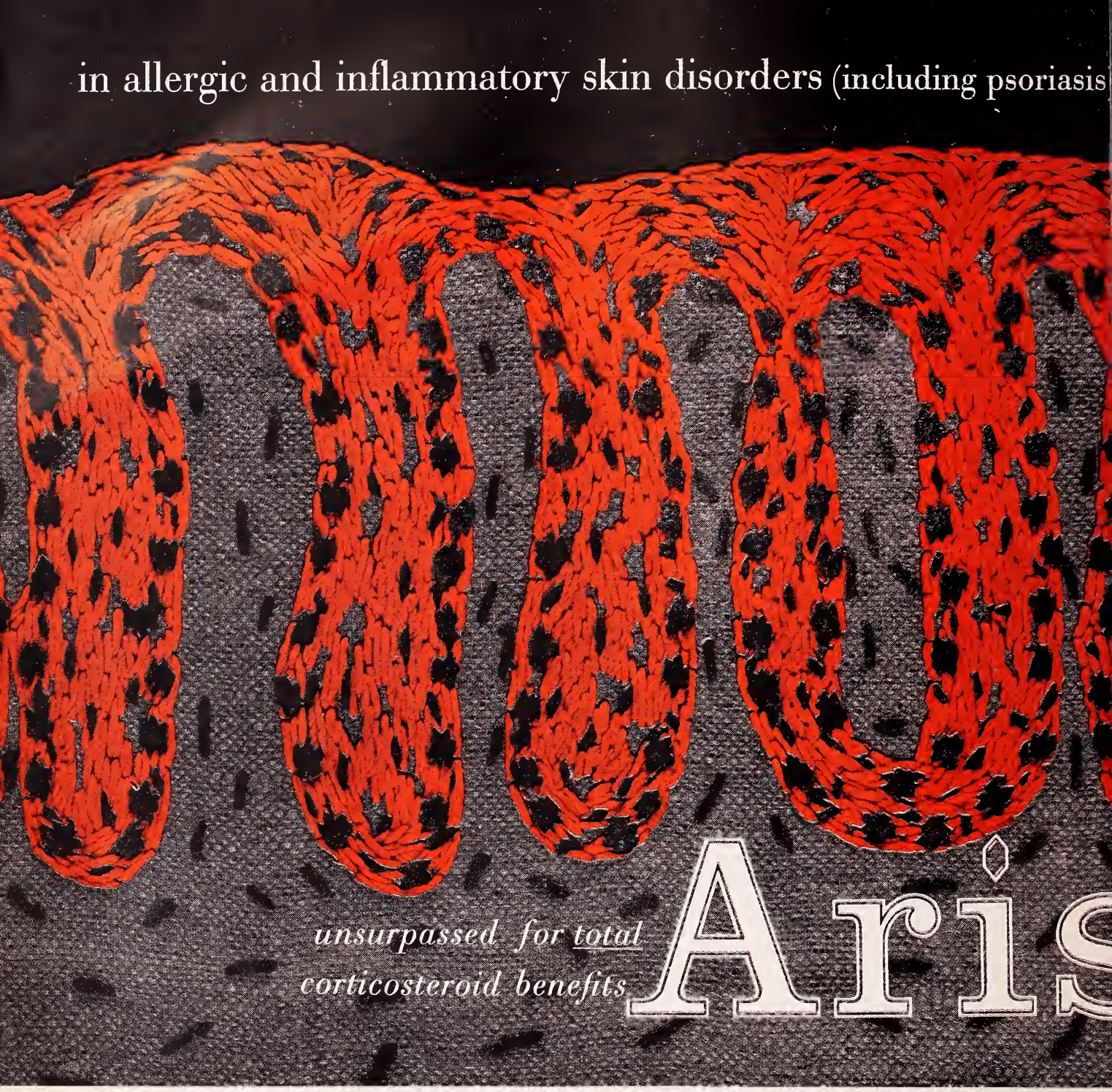
Routine study of cervical smears enables pathologists to detect an extremely high proportion of cervical carcinomas when they are in an asymptomatic, early and eminently curable stage.

Incipient malignant tumors of the uterine fundus, by contrast, give warning symptoms. Study of smears from the vaginal pool for the detection of early fundal carcinoma is somewhat superfluous, and the method misses as many as 20 per cent of the more dangerous cervical lesions.

The pathologist who reports results of study of all cervical smears as either positive or negative is missing as many as 20 per cent of early lesions, which should have been discovered after they had been placed in a category labeled "suspicious cells present."

These early unsuspected lesions are extremely diminutive, and the hunt for them must be conducted as a cooperative venture, with observance of seemingly unimportant details.

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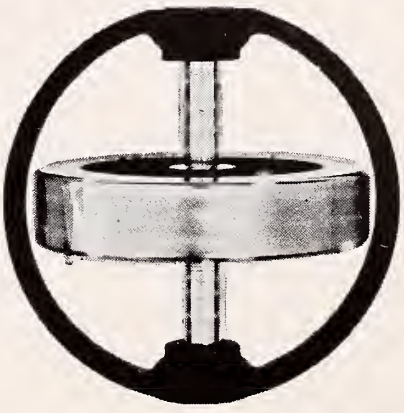


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Cerebral Cysticercosis *

Dr. Guillermo Hernandez Hernandez

NEUROLOGICAL ASPECTS

CEREBRAL cysticercosis, a disease found only in man and not easily identifiable clinically, reaches, in certain classes in Mexico, a rather constant frequency thus creating a considerable number of patients. This disease predominates among the rural and lower middle classes because of the prevailing poor hygiene. The majority of the patients reported here were seen in the Neurological Service of the Civil Hospital in Guadalajara.

To briefly review the method of contamination and the life cycle of this parasite we must remember that it is taken into the body by the ingestion of water, other liquids, or solids which are contaminated with the embryos of the taenia solium which have been excreted by individuals who are actually infected. After being ingested and subsequent to their absorption from the gastrointestinal tract, these embryos, or ova, undergo their transformation into a cystic larval stage in whichever organ they lodge, particularly in the muscles and nervous system. The reason for this predilection is not understood. Once established in the nervous system they are designated as Cysticercosis Cellulosae, to whom man plays the role of definitive host. Autoinfestation is also possible when an individual swallows his own infested excretion because of poor hygiene habits. The Cysticercosis Cellulosae varies in size from 2 to 30 mms., with a very thin, translucent membrane which allows visualization of the colorless fluid within the cyst. In the interior of the latter it is possible to see the scolex with its crown of hooks in an invaginated position. The Cysticercosis may present itself in any of the following forms: Cystic, Racemos or Calcified.

Cerebral cysticercosis is more common in the male sex in a ratio of 1.3 to 1. It is most frequent between the second and fourth decades; however, it occasionally is seen in infancy. Several statistical studies have been conducted in various parts of Mexico, and their conclusions, with slight differences, coincide.

Recently the Department of Pathology of the General Hospital in Mexico City made a survey of 1770 routine autopsies in which the following incidence of intracranial space-occupying lesion was reported:

*Presented at the Fourth Annual Meeting of the Medical Society of the United States and Mexico, December 3, 1959, Phoenix, Arizona.

Table 1

Series of 1770 autopsies (Dr. R. Perez Tamayo)

Type of Lesion	Total No. of Cases	% of total series	% of space-occupying lesion	% of pseudo tumors
Unclassified space occupying lesion	147	8.3%	100%	—
True neoplasms	63	3.5%	42.8%	—
Pseudo tumors	84	4.7%	57.1%	—
Cerebral Cysticercosis	44	2.4%	29.9%	53.3%

We can conclude from this study that nearly one-half of the space occupying lesions of the central nervous system were of a pseudo-tumoral nature and of these approximately one-half showed signs of cysticercosis. The rest of the pseudo-tumoral lesions were made up of tuberculomas, abscesses, vascular lesions, and one case of cerebral hemorrhage.

In the study of 44 cases of cerebral cysticercosis the following localizations are reported.

Table 2

Localization	No. of cases	% of total cases of Cerebral cysticercosis
Cerebral hemisphere	28	63.6%
Cerebellum	5	11.3%
Fourth ventricle	5	11.3%
Aqueduct of Sylvius and fourth ventricle	1	2.3%
Meninges	1	2.3%
Elsewhere in central nervous system	4	9.1%

In our own series consisting of 15 cases treated surgically and verified by pathological studies we classified the following localizations and types.

Table 3

Localization	Racemose	Cystic	Calcified	Total
Hemisphere	0	2	3	5
Fourth ventricle	0	3	0	3
Fourth ventricle aqueduct	4	2	0	6
Cerebellum	0	1	0	1
Grand total				15

The clinical manifestations may be purely neurological, exclusively psychiatric, or more frequently a combination of both types. In this discussion we will discuss the neurological manifestations only.

The symptomatology ordinarily is in relation to the localization, the form in which it presents itself and the number of parasitic elements. It would be convenient therefore to make an anatomical-clinical classification which will help us to interpret the signs and symptoms of the disease. We believe that the classification which we have followed in relation to the localization of the parasite is very useful and practical.

Table 4

Anatomical-Clinical Classification
Cerebral cysticercosis
(Dr. R. del Cuteo)

Cerebral parenchymatous cysticercosis	Localized	Nodular / Cystic
Ventricular-subarachnoid cerebral cysticercosis	Dessiminated	

This classification establishes two fundamental forms: the cerebral parenchymatous cysticercosis and the ventricular-subarachnoid cerebral cysticercosis. Although we may find variations in each of these groups, there is a certain constancy in their clinical pictures which helps to distinguish one from the other.

In the cerebral parenchymatous form the parasites reach the cerebral substance through the cerebral arteries and acting as foreign bodies they produce an inflammatory reaction in the surrounding tissues. As their localization usually is in the cortex of the cerebral hemisphere one of the first manifestations of their presence is a focal epilepsy. Cerebral parenchymatous cysticercosis may manifest itself in two ways, the localized cerebral parenchymatous form in which the invasion is made by a small number of parasites, and the disseminated parenchymatous form which is most frequent in children and in which the parasites are discovered by simple x-ray studies of the cranium which shows them up as multiple nodular calcifications, which may be cortical or subcortical, in both cerebral hemispheres. In these cases we note a predominance of manifestations of intracranial hypertension with intermittent headaches, visual impairment together with incipient stages of papilledema, vomiting, etc. At the same time we may have mental derangement, visual and auditory hallucinations and in the later stages of the disease, stupor and delirium.

The localized parenchymatous cysticercosis may exhibit two forms: Nodular and cystic. The nodular form presents palpable or visible parasitic nodules situated on the cerebral cortex. Its usual clinical manifestation is in the form of focal convulsive attacks which are persistent and very resistant to treatment. In many cases we can confirm the existence of a cortical epileptic focus.

In the cystic form the parasites are in a large subcortical vesticle, having its own membrane, which is thin and easily separated from the cerebral tissue in which it lies. The vesicle contains liquid and is full of cysticercus cysts and concretions of calcified material. As the vesicle increases in size it may cause manifestations similar to a cerebral tumor with radiological and clinical signs which lead us to believe in the existence of such a tumor. The clinical picture may be one of cranial hypertension or one of localization, these cases being more likely to exhibit mental disturbances.

Finally, we have the ventricular-subarachnoid cerebral cysticercosis in which the embryos of the parasite probably reach the brain through the intraventricular choroid plexus arteries. They float into the ventricular cavity and later from the ventricular system they migrate to the subarachnoid spaces at the base of the brain, thus blocking the ventricular system at the level of its natural narrow channels (foramen of Monro, aqueduct of Sylvius, etc.). At the same time their presence in the basal cysterns produces an inflammatory reaction with an arachnoiditis and an impairment of the absorption of the spinal fluid, thus favoring the persistence of the block and an increase in hydrocephalus. With these alterations in the spinal fluid circulation it is easy to see that the symptomatology is that of increased intracranial pressure with progressive internal hydrocephalus which may become intermittently acute. Under these conditions there may exist also cerebellar symptoms and paresis of various cranial nerves due to the basal arachnoiditis. This type of lesion, in our experience, and in the experience of other authors, is the most frequent and its evolution tends to be more rapid than in the other varieties. The predominant clinical manifestations consist of visual changes, severe headaches which may be intermittent at first and later become continuous, vomiting and eventually mental changes such as amnesia, disorientation, psychomotor retardation and depressive pictures which are almost dementias. The cerebellar disturbances are mainly in equilibrium and gait. Tremors are frequent as are the lesions of some of the cranial nerves.

From what has just been said we can see that there is no one easily identifiable clinical picture and that the different forms we have described may exist simultaneously in the same patient.

However, in the last variety described, the symptomatology is more or less constant and we can suspect its presence when we realize that the intracranial pressure and posterior fossa changes are usually seen in the adult patient. In the other form, the parenchymatous, we have arrived at the conclusion that every adolescent patient arriving to adulthood with delayed appearance of convulsive crises and who at the same time comes from an environment hygienically deficient most certainly is a victim of this serious parasitosis.

The paraclinical diagnostic aids used in this disease are a great help and do not differ much from the methods used in other diseases of the central nervous system. First of all we have the dynamic and chemical study of the spinal

fluid which includes the complement fixation reaction of Dr. Nieto, a laboratory test very specific for this disease and which gives us a low percentage of false positives. Modifications in the spinal fluid such as an increase in proteins, diminished glucose, pleocytosis, (principally lymphocytic), and in many cases a notable presence of eosinophiles, may, in the presence of the before-mentioned symptomatology, make us think of a cysticercosis. Also, among the routine examinations we do on these patients is the simple x-ray study of the cranium which may illustrate the presence of calcified lesions, single or multiple, on the cerebral cortex or in the cerebral parenchyma, or radio-opaque images which resemble tumors.

A negative electroencephalographic examination in a patient who has localized convulsive manifestations in our medium makes us think that the parasite is present. Sometimes, but not frequently, there may be cortical dysrhythmic alterations.

In those cases in which the dominant manifestations of cerebral lesions are intracranial hypertension with or without convulsive manifestations or with manifestations of the cerebellar type, the best diagnostic aid is ventriculography, which will show the existence of a large, usually obstructive hydrocephalus, and, occasionally, the intraventricular visualization of the parasitic vesicles fastened to the ventricular walls.

If there are no contra-indications of increased intracranial pressure in patients having convulsive manifestations with a possible systicercus etiology, the use of the pneumoencephalograph by one of the approved methods is very accurate as it can illustrate any displacement or ventricular modification caused by the parasite's presence.

TREATMENT

The treatment of this disease is far from satisfactory and in many cases we must be content to see only a slight improvement in the patient's condition.

Considering that the disease is transmissible, the best and most efficient treatment would be the prophylaxis by means of the application of adequate hygienic measures.

From a therapeutic standpoint there have been described a number of curative methods using antiparasitic medicines such as oleoresin of aspidium, antimony and I-diethyl-carbamyl-4-methyl piperzaine (Hetrazan) all of which give equivocal results. The use of anticonvulsants is indicated when seizures constitute a major symptom. Some have advised the use of Roentgen therapy due to its anti-inflammatory properties more than for its possible action over the parasite.

Finally, the surgical therapy of this disease offers one more method which can be used in these patients and the results, although variable, are acceptable. Its indication would have to be determined for each case and there would be some who would not benefit from any surgical treatment.

In general, by surgery we would attempt to extirpate the parasitic formations which by their localization give manifestations of cerebral injury which we have already noted and which by means of paraclinical investigation have been clearly identified in their cortical, sub-cortical or subarachnoid location.

Thus, for example, in a case in which there exist manifestations of a focal epilepsy once that we have vertified the existence and localization of the parasites we should do a surgical intervention with the object of removing the parasites, if possible, which are causing the cerebral lesion.

In other occasions, when there are signs and symptoms or cranial hypertension by obstructive hydrocephalus due to the presence of the parasite in the ventricular system we should use one of the surgical drainage shunt procedures now in use.

When we see that the cysterna magna is not obstructed we do a ventricular-cysternal shunt (Torkildsen) which has given us good results. If it is not possible to do this we do one of the other drainage operations such as a ventricular-pleural, ventricular-peritoneal, etc., considering beforehand the limitations of these methods and taking into consideration also the possibility of a block due to the presence of parasites.

Recently in some cases with this type of alteration an attempt has been made to use the continuous ventricular drainage temporarily making use of the ventriculostomy used for the air studies. Some authors have reported an improvement in their patients using this method.

Cisticercosis Cerebral

Dr. Guillermo Hernandez Hernandez

ASPECTOS NEUROLÓGICOS

A CISTICERCOSIS Cerebral, padecimiento singular en el hombre, de difícil identificación clínica, alcanza, en ciertos medios de nuestro país, una frecuencia constante que determina un considerable numero de pacientes. Predomina esta enfermedad en el medio rural por razones de carencia de higiene y se localiza como es natural enlos núcleos de población de escarsos recursos económicos, de los que proceden la mayor parte de los enfermos que acuden a la consulta neurológica del Hospital Civil de Guadalajara, en donde casi la totalidad de los casos han sido vistos.

Recordaremos brevemente que este padecimiento se adquiere con la ingestión de agua o ciertos alimentos contaminados con los embriones de la tenia solium que excretan los individuos con esta parasitosis. Estos embriones al desarrollarse adquieren la forma quística larvaria y al pasar la barrera intestinal son conducidos por el torrente sanguíneo hacia diferentes partes del cuerpo, principalmente músculos y cerebro. Lo más frecuente es encontrarlos tan sólo en una de estas dos localizaciones sin saberse la razón. Una vez situados en el tejido cerebral se les designa con el nombre de Cisticerco celulosae, del cual el hombre viene a ser el huésped definitivo. Puede haber una verdadera autoinfestación al ingerir el individuo embriones de su propio parásito después de la defecación, por no observar reglas precisas de higiene. El Cisticerco celulosae se presenta en forma quística de de dimensiones variables, desde 2 a 3 mm. a 2 a 3 cmts. con una membrana delgada, translúcida, que permite ver el contenido líquido claro e incoloro del quiste. En su interior se observa, invaginado, el éscolex con su corona de ganchos. El citicerco puede adoptar cualquiera de las siguientes formas: Quístico, Racemoso o Calcificado.

La Cisticerosis Cerebral es más común en el sexo masculino en una relación aproximada de 1.3 a 1. Es más frecuente entre la segunda y la cuarta décadas de la vida, aunque también ocasionalmente se la encuentra en la infancia. Disponemos actualmente, aunque en forma aislada, de numerosas experiencias estadísticas en nuestro país, y las conclusiones de los diferentes observadores con escasas diferencias, son coincidentes.

No hace mucho en la Unidad de Patología del Hospital General de la Cuidad de México, se llevó a cabo una revisión de 1770 autopsias en casos no seleccionados de ambos sexos, con los siguientes resultados:

Tabla 1
Serie de 1770 autopsias (Dr. R. Perez Tamayo)

Tipo de Lesion	Total de casos	% de la serie total	% de lesiones ocupantes	% de lesiones pseudotumorales
Total de lesiones ocupantes	147	8.3%	100%	—
Lesiones tumorales	63	3.5%	42.8%	—
Lesiones pseudotumorales	84	4.7%	57.1%	—
Cisticercosis cerebral	44	2.4%	29.9%	53.3%

Por tanto puede decirse que en esta serie cerca de la mitad de los casos de lesiones ocupantes del nervioso central fueron de naturaleza pseudotumoral y de éstas aproximadamente la mitad presentaron Cisticercosis. Las otras lesiones pseudotumorales se constituyeron en tuberculomas, abscesos, lesiones vasculares y un caso de hemorragia cerebral.

En los 44 casos de cisticercosis de esta serie tenemos las siguientes localizaciones:

Tabla 2

Localizacion	Numero de casos	% total de casos de cisticercosis cerebral
Hemisferios cerebrales	28	63.6%
Cerebelo	5	11.3%
Cuarto ventriculo	5	11.3%
Acueducto de Silvio y cuarto ventriculo	1	2.3%
Meninges	1	2.3%
Otros lugares del sistema nervioso	4	9.1%

En nuestra experiencia con 15 casos tratados quirúrgicamente y comprobados por estudios anatomopatológicos, hemos dado con las siguentes localizaciones:

Tabla 3

Localizacion	Racemoso	Quistico	Calcificado	Total
Hemisferios	0	2	3	5
4° ventriculo	0	3	0	3
Acueducto y 4° ventriculo	4	2	0	6
Cerebelo	0	1	0	1
Total				15

Siendo de todos conocida la manera de infestación parasitaria en el hombre así como las vías de acceso del parásito al sistema nervioso central, creemos de más utilidad prática tratar de esbozar un cuadro-clínico que nos ayude a su identificación, tarea por lo demás difícil, por ser tan pocos sus rasgos característicos.

El Cisticerco puede adoptar cualquiera de las formas siguientes: Quística, Racemosa y Calcificada.

En términos generales las manifestaciones clínicas pueden ser puramente neurológicas, exclusivamente psiquiátricas o bien, lo que es más frecuente, la coexistencia de ambos tipos de alteraciones en un mismo enfermo. Nos limitaremos a analizar las primeras.

La sintomatología está relacionada con la localización del parásito, forma y número de elementos parasitarios. Conviene por lo tanto establecer una clasificación anatomo-clínica que nos ayude a interpretar los signos y síntomas de este padecimiento. La clasificación que nosotros hemos seguido en relación con la localización del parásito y por su utilidad práctica es la siguiente:

Tabla 4
Clasificacion Anatomo-clinica
cisticercosis cerebral
(Dr. R. del Cueto)

Cisticercosis cerebral ventriculo-subaracnoidea	Localizada	Nodular Quistica
Cisticercosis cerebral parenquimatosa	Diseminada	

Esta clasificación establece dos formas fundamentales: La cisticercosis cerebral parenquimatosa y la cisticercosis cerebral ventrículo-subaracnoidea. Aun cuando se pueden producir variantes en ambos grupos, existe, cierta constancia en los cuadros clínicos que los distingue el uno del otro.

En la forma Cerebral Parenquimatosa los parásitos alcanzan la substancia cerebral, por vía sanguínea arterial y se sitúan como cuerpos extraños produciendo una reacción inflamatoria vecinal, y como su localización preferente es en la corteza de los hemisferios, la epilepsía focal es uno de los principales resultados. Esta variedad puede presentarse de dos maneras: la forma

Cerebral Parenquimatosa localizada, en la cual la invasión lo es por un escaso número de parásitos, y la forma Parenquimatosa Diseminada, más frecuente en los niños en donde algunas veces se descubren los parátistos en estudios radiofráficos simples del cráneo con múltiples calcificaciones nodulares corticales o bien subcorticales en ambos hemisferios cerebrales. En estos casos predominan las manifestaciones Cráneo-Hipertensivas con cefaleas intermitentes, trastornos vi suales en relación con grados incipientes de edema papilar, vómitos, etc. Así mismo puede haber trastornos mentales, alucinaciones visuales y auditivas y, en las últimas etapas del padecimiento, estupor y delirio.

La variedad de Cisticercosis Parenquimatosa Localizada puede presentarse en dos formas: Nodular y Quística. La primera de éstas presenta nódulos parasitarios palpables o visibles, situados sobre la corteza cerebral cuya manifestación clínica habitual es en forma de ataques convulsivos focales, persistentes y en particular rebeldes a todo tratamiento. En algunos casos puede confirmarse la existencia de un foco Epileptógeno Cortical.

La Parenquimatosa Localizada que se presenta en forma quística muestra a los parásitos formando una gran vesícula subcortical, con membrana propia, delgada y fácilmente disecable del tejido cerebral, donde se aloja. El contenido que es líquido, se llena con un gran número de quistes de cisticerco y formaciones de un material calcificado. Al crecer en tamaño pueden originar las manifestaciones propias de un tumor cerebral con signos radiológicos y clínicos que hacen pensar en la existencia de éste. El cuadro clínicos puede ser cráneo-hipertensivo o de localizacón siendo estos casos más susceptibles para presentar trastornos en la esfera mental.

Por último en la cisticercosis cerebral ventrículo-subarancnoidea los embriones del parásito llegan al encéfalo por vía de las arterias de los Plexos Coroideos Intraventriculares, pasan a la cavidad de éstos en, cuyo interior flotan en el líquido cefalorraquídeo para más tarde movilizarse en el sistema ventricular e ir a situarse en los espacios subaracnoideos de la base del encéfalo y así bloquear el sistema ventricular al nivel de sus estrecheces naturales, agujeros de Monro, acueducto de Silvio, etc. Además, su presencia en las cisternas basales produce una reacción inflamatoria con la consiguiente Aracnoiditis y una dificultad para la absorción del líquido cefalorraquídeo, lo que, en unión del bloqueo, hace aumentar la Hidrocefalia. Con estas alteraciones encefálicas es fácil pensar que la sintomatología obedezca a un aumento de la Presión Intracraneal con una Hidrocefalia interna de tipo progresivo la cual puede agudizarse en forma intermitente. En estas condiciones existen además alteraciones de tipo cerebeloso así como ataque a diversos pares craneales por el proceso de la aracnoiditis basal. Esta forma de presentación de las lesiones, en nuestra propia experiencia y en la de otros autores es, con mucho, la más frecuente y su evolución tiende a ser más rápida que en las otras variedades. Predominan como manifestaciones clínicas las modificaciones visuales, cefalea intensa que puede ser intermitente en un principio para hacerse contínua posteriormente, vómitos y, por último, trastornos en la esfera mental, tales como amnesia, desorientación, bradipsiquia, y cuadros depresivos casi demenciales. Los trastornos cerebelosos se encuentran principalmente en relación con el equilibrio y la marcha. El temblor uni o bilateral fino es frecuente, tanto como la lesión de algunos pares craneales.

Como puede observarse de lo expuesto, no existe un cuadro clínico fácilmente identificable y las diferentes formas de presentación que hemos enumerado pueden existir en un mismo enfermo.

Sin embargo, en esta última variedad, la sintomatología es más o menos constante y podemos sospechar la naturaleza del padecimiento, tomando en cuenta que las alteraciones craniohipertensivas y de fosa posterior se están presentando generalmente en un individuo adulto. En las otras formas, las parenquimatosas, hemos llegado a la conclusión que todo enfermo en la adolescencia o que ha llegado a la vida adulta con crisis convulsivas de aparición tardía y que por otro lado proviene de un medio higiénicamente dificiente, pueden ser casi seguramente portadores de esta grave parasitosis.

En cuanto al diagnóstico paraclínico de esta cnfermedad diremos que es de una gran ayuda y en poco dificre de los métodos usados en otro tipo de padecimiento del sistema nervoso central. Destaca en primer lugar, el estudio dinámico y químico del L.C.R. por ofrecer la oportunidad de practicar la reacción de fijación de complemento del Dr. Nieto, prueba de laboratorio con mayor especificidad en el diagnóstico de esta condición patológica y que ofrece además un porcentaje muy bajo de falsa positividad.

Modificaciones tales como aumento de proteínas, disminución de la glucosa, aumento do células, principalmente linfocitos, y, en ocasiones, eosinófilos, pueden hacernos pensar en unión de la sintomatología ya citada, en un proceso cisticercósico.

Además, entre los exámenes que rutinariamente practicamos a estos enfermos está el Estudio Radiográfico simple de cráneo, el cual puede mostrar lesiones calcificadas, únicas o múltiples, sobre la corteza cerebral o en el espesor del parénquima cerebral, o bien imágenes radiopacas considerables que semejan un tumor.

La negatividad en el examen Electronencefalográfico en presencia de un paciente con manifestaciones convulsivas localizadas, hace pensar, en nuestrao medio, en la existencia del parásito. En ocasiones, aunque no es lo frecuente, puede haber alteraciones en el registro electroencefalográfico.

En los casos cuyas manifestaciones dominantes de sufrimiento encéfalico sean de hipertensión craneal con o sin manifestaciones convulsivas o de tipo cerebeloso, la mejor ayuda en el diagnóstico, la tenemos en la Ventrículografía cerebral, demostrando ésta la existencia de una gran hidrocefalia generalmente obstructiva, y en ocasiones la visualización intraventricular de las vesículas parasitarias sujetas a las paredes de los ventrículos.

No existiendo contraindicaciones de tipo cranio-hipertensivo y en presencia de individuos con manifestaciones convulsivas y sospecha, etiológica de cisticerosis, el uso de la Nuemoencefalografía por uno u otro método es bastante eficaz, ya que nos puede aclarar en relación con este padecimiento cualquier desplazamiento o modificación ventrícular originados por la presencia del parásito.

TRATAMIENTO

El tratamiento de esta grave afección dista mucho de ser satisfactorio y en muchos casos debemos contentarnos con observar tan sólo una mejoría en el enfermo.

Consideramos que tratándose de un padecimiento transmisible, el mejor o más eficaz tratamiento será la profilaxis mediante la aplicación de ordenadas normas de higicne.

Desde el punto de vista terapéutico, se han intentado difcrentes métodos curativos a base de medicamentos antiparasitarios, tales como el Helecho Macho, Antimonio y últimamente el I-dietil Carbamil-4-metilpiperazina (Hetrazan), desgraciadamente con malos resultados. El uso de anticonvulsivantes está indicado en algunos casos llengando en ocasiones a dominar las manifestaciones convulsivas. Algunos han aconsejado el uso de Roentgenterapia por sus propiedades antiflamatorias más que por la acción que ésta pueda tener sobre el parásito.

Finalmente, la terapéutica quirúrgica de esta grave afección ofrece un recurso más con el cual debemos contar en el manejo de estos enfermos y los resultados de su aplicación, aunque varían, son aceptables. La indicación será individual para cada caso y algunos que no puedan ser beneficiados con esta terapéutica.

En términos generales, por este medio quirúrgico trataremos de extirpar las formaciones parasitarias que, por su localización, den cualquiera de las manifestaciones de sufrimiento cerebral que ya hemos citado y que, mediante el uso de los diferentes medios de investigación paraclínica, hayan sido perfectamente identificadas sea su situación cortical, subcortical o subaracnoidea.

Así, en el caso de existir manifestaciones de epilepsia focal, deberá practicarse la intervención quirúrgica con objeto de extirpar, de ser posible, los parásitos causantes de la lesión cerebral una vez que se ha comprobado la existencia y localización de éstos por los medios ya descritos.

En otras ocasiones, cuando existan signos y síntomas de craniohipertensión por hidrocefalia obstructiva, debido a la presencia del parásito dentro del sistema ventricular, debemos usar cualquiera de los procedimientos quirúrgicos de tipo derivativo ya conocidos.

Nosotros en particular, cuando observamos cierta integridad anatómica y funcional en la cisterna magma, practicamos la derivación ventrículocisternal (Torkildsen) con buenos resultados. De no ser posible esto, intentamos alguno de los otros métodos de derivación, como ventrículo-pleural, ventrículo-peritoneal, etc., contando de antemano con los inconvenientes que acompañan a estos métodos, y tomando en cuenta, además, la mayor posibilidad en un bloqueo por la presencia de los parásitos.

A últimas fcchas se ha intentado en algunos casos con esta tipo de alteración el drenaje ventrícular contínuo temporalmcnte, aprovechando la ventriculostomía usada para el estudio de aire. Algunos autores informan mejoría en los enfermos así tratados.

A Clinical Pharmacologic Study of Benzphetamine (Didrex®), A New Appetite Suppressant

by

Harold L. Oster, M.D.

and

Robert E. Medlar, M.D.

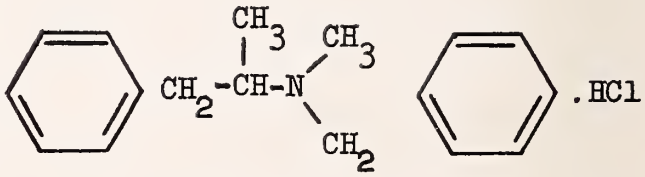
IN A recent report by Simkin and Wallace(1), it was shown that benzphetamine* in doses of 25 to 50 mgm. thrice daily before meals induced progressive weight loss in each of five four-week periods. In contrast, the group given matching placebo tablets enjoyed a moderate weight loss in the first four-week period only. All subjects were advised to adhere to a 1,000 calorie diet. Side effects were similar in the drug and control groups except that there was a definitely greater incidence of hunger in the latter. It was the authors' conclusion that most of the side effects in both groups were in reality the symptoms of obese patients undergoing semi-starvation on low calorie diets.

It is the purpose of this paper to report our experiences with benzphetamine hydrochloride in terms of appetite suppression, side effects, and its freedom from influence on fasting blood sugar concentrations and blood pressures in normal subjects.

*The trade name for benzphetamine is Didrex®

MATERIALS AND METHODS

Benzphetamine or (+) N-benzyl-N, a-dimethylphenethylamine hydrochloride has the following structural formula (dextro form):



It was synthesized in the laboratories of The Upjohn Company and the following data were provided in the Upjohn brochure on the drug. The acute LD_{50} in mice by the intraperitoneal route was 153 mg./Kg. Orally it was 227. In rats the acute LD_{50}, orally, was 160 mg./Kg. Groups of ten adult rats, five male and five female, received 0, 3, 10 and 30 mg./Kg. of benzphetamine by intubation once daily for 32 days. Males on all dosage levels and the females on the 30 mg./Kg. level gained less weight than the con-

trols. Drug related lesions were not observed on gross or microscopic examination at the end of the tests.

Groups of three dogs were given oral doses of benzphetamine of 0, 0.3, 1 and 3 mg./Kg. daily for 37 days. No clinical signs related to drug toxicity were observed. Blood chemistry, urinalyses and kidney and liver function values were within normal limits throughout and, again, no gross or microscopic lesions observed appeared to be drug-related.

A group of eight dogs was used to study anorexigenic activity. Food was available to them at all times. First they were given 1 mg./Kg. benzphetamine orally twice daily for four weeks with the result that 5.3 Kg. weight loss was found for the group (22.0 per cent inhibition of weight gain). Following a suitable rest period, they were given 10 mg./Kg. phenmetrazine orally twice daily for four weeks. The aggregate weight loss was 5.6 Kg. at the end of that time.

In the light of these encouraging data, human tolerance was cautiously determined and it was found that 200 mg. in adults, as a *single dose*, caused only some transitory jitteriness. When given in *divided doses*, however, 80 mg. thrice daily was reported to be subjectively well tolerated (240 mg.). Appropriate laboratory studdies showed no drug effect on blood, urine, renal or hepatic functions.

Preliminary efficacy trials in obese patients indicated that in the range of 30-80 mg., given thrice daily before meals, appreciable weight loss might be expected. Because of the many variables involved, it was then essential to study the drug in controlled trials, which are the subject of this report.

A. Controlled Weight Loss Study

Fifty overweight but otherwise healthy male subjects were randomly divided into two equal groups. They ranged in age from 25 to 67 years and were from eight to 105 pounds over their estimated ideal weights. The 25 control subjects averaged 36.0 pounds overweight with aggregate excess of 901 pounds. The 24 (one was transferred during the study) subjects who received the drug had an aggregate excess poundage of 993, with a sample average of 41.4 pounds.

Scored placebo and 50 mg. benzphetamine tablets of similar appearance were taken, under supervision, thrice daily, 20 to 40 minutes before meals for 28 days. There were no dietary restrictions.

Participants in this study had blood pressure determinations, urinalyses and hemoglobin determinations (Beckman method) prior to and at the conclusion of four weeks' medication. Body weight was recorded at weekly intervals. Information concerning subjective side effects was elicited at frequent intervals.

B. Controlled Dosage Comparisons

Forty obese men were randomly divided into groups of ten. One group was given one-half tablet of one coded preparation, another a whole tablet thrice daily before meals for seven days. The other two groups were given one-half or a whole tablet of the other coded preparation at the same time. Diet was unrestricted in all groups.

The first six days each subject was asked daily to volunteer information as to subjective side effects. At the end of the seven-day study each was asked specific questions concerning changes in appetite, sleep pattern, mood and other symptoms which might have been drug-induced.

Each man was weighed before and at the conclusion of the study.

C. Effect on Blood Sugar

Twenty-one other normal men were given single doses of 200 mg. (four tablets) while in the fasting state. Blood glucose determinations (Hoffman method(2) were done at intervals. Resulting curves were compared with those obtained in 18 experiments in which placebos had been used and with those following one-gram doses of tolbutamide (Orinase). The latter represented 69 runs in 12 experiments.

RESULTS

A. Controlled Weight Loss Study

Detailed data concerning control and drug groups are given in Tables 1 and 2. During the four-week period weight change in the 25 control subjects was a gain of 28 pounds, an aggregate loss of 25. There was, then, no evidence of appetite suppression.

In the treatment group of 24 subjects there was a net loss of 178 pounds during the four weeks, versus a gain of only nine. The loss in the aggregate totaled 169 pounds or 1.75 pounds per patient per week. Only three subjects failed to lose some weight. Loss in the other 21 ranged from three to 16 pounds with a mean loss of seven pounds per subject during the study.

Table 1

Data on Subjects Given Benzphetamine

Subject No.	Age	Est. Pounds Overweight	Weight Loss or Gain: First Week	Second Week	Third Week	Fourth Week	Overall Change
1.	57	46	—3	0	0	0	—3
2.	35	35	+4	—1	0	+2	+5
3.	59	45	—3	+3	—1	—2	—3
4.	35	40	—4	—1	—2	0	—7
5	55	32	—6	+1	0	—1	—6
6.	48	38	—1	—1	—2	—2	—6
7.	45	33	—7	+3	—3	—2	—9
8	48	77	—3	0	—1	—2	—6
9.	44	80	—8	—2	—5	—1	—16
10.	33	43	—5	—4	—3	+2	—10
11.	35	20	—1	+6	—3	+1	+3
12.	34	32	—8		(transferred)		
13.	36	50	—5	0	—1	+3	—3
14.	39	38	—5	+1	—1	—3	—8
15.	32	30	—8	+1	—4	—3	—14
16.	67	59	—3	+3	—3	—2	—5
17.	33	18	—10	+2	—1	—1	—10
18.	33	69	+2	—3	+3	—1	+1
19.	32	16	—7	—1	—1	—5	—14
20.	32	28	—4	—1	—2	—3	—10
21.	38	60	—8	—2	—2	—4	—16
22.	25	48	—5	—4	—3	+3	—9
23.	40	8	—3	—2	+2	—3	—6
24.	42	20	—6	0	—2	—2	—10
25.	32	60	—5	+1	—3	0	—7
		993					
	Pounds lost		—110	—22	—43	—37	—178
	Pounds gained		+6	+21	+5	+11	+9
	Difference		—104	—1	—38	—26	—169

Table 2

Data on Subjects Given Placebo

Subject No.	Age	Est. Pounds Overweight	Weight Loss or Gain: First Week	Second Week	Third Week	Fourth Week	Overall Change
1.	41	45	—1	+1	—2	+3	+1
2.	55	105	—4	+4	—1	—2	—3
3.	35	15	+1	+1	+7	—5	+4
4.	36	44	+1	+2	—2	—2	—1
5.	47	42	0	0	—1	+1	0
6.	26	44	—1	+1	0	—1	—1
7.	32	70	+1	+5	0	+1	+7
8.	29	45	—5	+3	—1	+1	—2
9.	26	20	—4	+4	0	+3	+3
10.		23	0	+1	+1	—2	0
11.	32	35	+1	—1	+2	—1	+1
12.	64	25	0	+2	—1	—2	—1
13.	33	33	0	—1	—1	—1	—3
14.	39	30	+1	+1	—2	+1	+1
15.	59	9	—1	—2	+1	+1	—1
16.	38	22	+1	+1	+1	+2	+5
17.	32	21	—3	+3	0	+1	+1
18.	26	40	—3	+2	—1	—1	—3
19.	35	30	0	—4	+3	+1	0
20.	34	55	+1	0	+2	—2	+1
21.	26	23	—3	0	+2	+1	0
22.	25	20	—1	+1	+2	—1	+1
23.	33	40	—5	—1	0	0	—6
24.	48	49	—2	+1	—1	—1	—3
25.	47	16	+1	+2	+3	—3	+3
		901					
	Pounds lost		—33	—9	—13	—24	+28
	Pounds gained		+8	+35	+24	+16	—25
	Difference		—25	+26	+11	—8	+3

No significant alterations in blood pressures were noted. Prior to the study blood pressure in the 24 drug subjects averaged 138.0/96.3 (range 168-102/136-78). At the conclusion of the 28-day study mean blood pressure was 135.8/97.1 (range 184-110/134-68). These were remarkably similar to the placebo group data. Prior to the study, blood pressure for the 25 men averaged 136.3/91.4 (range 170-102/128-84). At the end the mean pressure was 129.4/94.8 (range 156-104/110-82). Similarly, no significant changes were noted in before-and-after urinalyses or hemoglobin levels in drug or control groups.

The subjective effects or side effects noted during the study by members of treatment and control groups are presented in Table 3. Impaired appetite was reported twice in the control-group and in 21 of the 24 receiving the drug. Central nervous system stimulation, usually limited to the first day or two, was noted by two control subjects, and by 15 receiving the drug. Several of these reported mood elevation but only three of the 24 men getting the drug were "nervous". Others commented that they slept better, were "calmed down" or that they needed less sleep.

B. Controlled Dosage Comparisons

On the basis of the Simkin-Wallace report we had not anticipated that over half the subjects given 150 mgm. benzphetamine daily would have symptoms of central nervous system stimulation. To study this further, ten men were given 50 mgm., ten received 25 mgm thrice daily before meals, and corresponding placebo groups were carefully observed. Results have been summarized in Tables 4 and 5.

Nineteen of the 20 men given benzphetamine lost weight in amounts ranging from 0.5 to nine pounds during the week. The aggregate loss for the 20 men was 50 pounds. In the placebo groups, weight loss was enjoyed by six of 20, in amounts ranging from 0.5 to 9.5 pounds. Aggregate gain was nine pounds. These results resembled those in the first controlled trial and suggested that 25 mgm. doses might be as efficacious as 50 mgm. ones.

In Table 5 are presented results of the interviews. Both dosage regimens of the drug gave excellent appetite suppression. Both induced stimulation which tended to be dose-size-related. Men complained of difficulty in getting to or staying asleep the first night or two. The stimulation was not "jitteriness" but rather a calm, clear-headed alertness which was not unpleasant. It was especially noteworthy that in spite of interference with sleep, none complained of being tired in the mornings.

C. Effect on Blood Sugar

Blood sugar levels following single 200 mg. doses of benzphetamine in fasting normal subjects did not differ significantly from those in similar subjects given placebos. The following tabulation gives the adjusted average blood sugar levels as per cent of the placebo group average:

Time	Benzphetamine 200 mg.; 21 subjects	Tolbutamide 1 Gm.; 69 "runs"
0	100%	100%
20 minutes	99.5	———
40 minutes	99.2	———
1 hour	97.6	91.6
2 hours	100.3	88.2
4 hours	102.8	88.3
6 hours	100.8	91.0
8 hours	100.3	92.0
10 hours	101.5	93.5

These data are shown graphically in Figure 1.

At this dosage level definite jitteriness was noted consistently.

DISCUSSION

Total weight loss in both the four-week and the seven-day studies was significantly greater in the men given the drug than in those receiving placebo tablets. Of 34 given 50 mgm. thrice daily before meals, all but three lost weight. At the 25 mgm. level, nine of ten did so. This seemed remarkable for, in contrast to the bulk of reported studies on anorexigenic agents, no dietary restrictions were advised. Several of the men at both dosage levels commented that they "filled up on less", "were not hungry" or "less food satisfies".

Aside from appetite suppression, the only frequently encountered side effect seemed to be difficulty in getting to or staying asleep the first few nights of the study. In spite of this, none complained of being tired. The stimulation was not a jitteriness; rather, the men were alert and clear-headed, with mood elevation in some. It was significant that blood pressure in control and treatment groups showed no difference from baselines after 28 days' ingestion of 150 mgm. of

Table 3

Side Effects	25 Subjects Placebo	Benzphetamine 24 Subjects
Impaired Effects	2	21
Interference with sleep	2	15[1]
Mood elevation	1	6
Increased appetite	3	
Dizziness		3
Nervousness		3
Dry mouth		2
Slept better	1	1
Needs less sleep		1
Increased urination	1	
Nausea	1	
Headache	1	
Increased sweating		1
Calmed him down		1
Constipation		1
Tired feelings in legs		1

[1]Usually limited to first night or two of treatment.

Table 4

Weight Change in 40 Men Given Benzphetamine or Placebo for One Week

1. Benzphetamine

	½ tablet (25 mg.) t.i.d., ac.		1 tablet (50 mg.) t.i.d., ac.	
1.	203.0 to 200.5 lb.	—2.5 lb.	185.0 to 184.0 lb.	—1.0 lb.
2.	232.0 to 230.5 lb.	—1.5 lb.	234.0 to 231.0 lb.	—3.0 lb.
3.	208.5 to 206.0 lb.	—2.5 lb.	259.0 to 258.0 lb.	—1.0 lb.
4.	189.0 to 180.0 lb.	—9.0 lb.	242.0 to 241.5 lb.	—0.5 lb.
5.	224.0 to 219.5 lb.	—4.5 lb.	186.0 to 185.5 lb.	—0.5 lb.
6.	185.0 to 183.0 lb.	—2.0 lb.	240.5 to 236.5 lb.	—4.0 lb.
7.	203.0 to 199.5 lb.	—3.5 lb.	213.0 to 212.0 lb.	—1.0 lb.
8.	229.0 to 233.0 lb.	+4.0 lb.	208.0 to 204.5 lb.	—3.5 lb.
10.	207.0 to 203.5 lb.	—3.5 lb.	234.0 to 227.5 lb.	—6.5 lb.
	Loss	—31.5 lb.		—22.5 lb.
	Gain	+ 4.0 lb.		+0 lb.
	Balance	—27.5 lb.		—22.5 lb.

2. Placebo

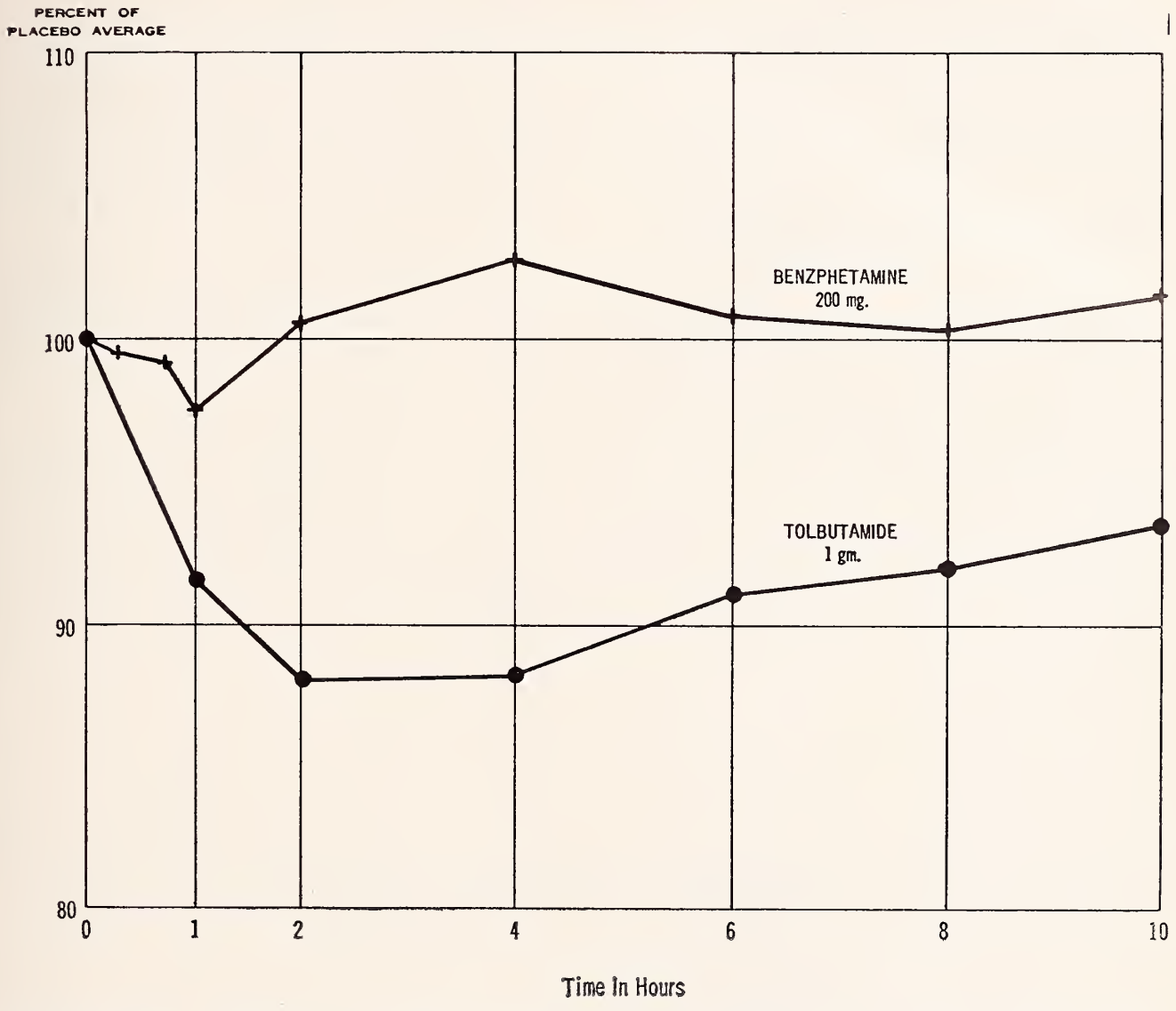
	½ tablet t.i.d., ac.		1 tablet t.i.d., ac.	
1.	184.0 to 188.0 lb.	+4.0 lb.	199.0 to 201.5 lb.	+2.5 lb.
2.	260.0 to 259.5 lb.	—0.5 lb.	212.5 to 213.5 lb.	+1.0 lb.
3.	192.5 to 194.5 lb.	+2.0 lb.	204.0 to 201.0 lb.	—3.0 lb.
4.	204.5 to 203.5 lb.	—1.0 lb.	160.0 to 158.0 lb.	—2.0 lb.
5.	216.0 to 217.5 lb.	+1.5 lb.	210.5 to 214.0 lb.	+3.5 lb.
6.	192.0 to 193.0 lb.	+1.0 lb.	208.0 to 209.0 lb.	+1.0 lb.
7.	193.5 to 192.5 lb.	—1.0 lb.	178.5 to 169.0 lb.	—9.5 lb.
8.	184.5 to 187.5 lb.	+3.0 lb.	206.5 to 209.0 lb.	+2.5 lb.
9.	182.5 to 184.0 lb.	+1.5 lb.	192.0 to 192.0 lb.	0 lb.
10.	178.5 to 181.0 lb.	+2.5 lb.	178.5 to 178.5 lb.	0 lb.
	Loss	— 2.5 lb.		—14.5 lb.
	Gain	+15.5 lb.		+10.5 lb.
	Balance	+13.0 lb.		— 4.5 lb.

Table 5

Symptoms and Effects Reported Following Benzphetamine and Placebo

	Didrex		Placebo	
	25 mg.	50 mg.	½ tab.	1 tab.
Appetite Loss	9	10	1	1
Food Intake Loss	9	10		2
Sleep Better	1			2
Sleep Worse	5	8	2	2
More Alert		2		
Calmer	1			
Headaches	1	3		
Increased Urination		1		
Increased Sweating		1		
Light-headed		2		
Nausea, Upset Stomach			3	1
Loose Stools			1	
Bloating				
Abdominal Cramping				1
Dry Mouth	1			1
Legs Ache, First Night		1	1	

Except for appetite suppression, these effects were usually limited to the first day or two of study.



benzphetamine. Especially noteworthy was the finding that large single doses (200 mgm.) did not modify fasting blood sugar curves. These data suggest the drug will be useful in obese patients also hypertensive or diabetic.

Although central nervous system stimulation was not prominent in the study of Simkin and Wallace, it may be that patient-selection would explain this. They studied patients attending an obesity clinic, and it may be that they had developed tolerance to the amphetamine group of drugs. In contrast, the men in this study had in no case been given medication for weight reduction in the recent past.

It seems probable that the selective stimulation of the nervous system without effect on blood pressure, as seen in our data, is desirable. Patients at once know they are being given a potent medication, an important part of the psychologic support required to continue a weight reduction program. Change of dietary habits may be facilitated by a drug which "gives a boost", so to speak. It was noteworthy that even after less sleep than usual, the men did not feel tired. And in most cases interference with sleep was limited to the first night or two.

Finally, it should be kept in mind that a rigid regimen was followed in these studies. In practice it would probably be wise to modify dosage according to the needs of each particular patient. Giving one-half or one tablet in mid-morning at the outset might well suppress appetite until bedtime when stimulation would have diminished. The daily dosage could then be modified from time to time according to individual requirements. This approach is currently under study.

SUMMARY

Three attributes of the appetite suppressant drug, benzphetamine hydrochloride (Didrex®) were studied.

1. Appetite suppression and weight loss com-

parisons of drug and placebo were done in 49 obese men over a four-week period and in 40 men for one week. Good appetite suppression was obtained with 25 mgm. and 50 mgm. doses given thrice daily before meals. Although there were no dietary restrictions, significantly greater weight loss occurred in the groups given 25 or 50 mgm. doses than in the control subjects.

2. Central nervous system stimulation was frequently seen at both dosage levels as shown by interference with getting to or staying asleep the first night or two of both studies. This should readily be controlled by appropriate flexible dosage regimens. It is significant that blood pressure determinations done before and after 150 mgm. of drug daily for four weeks showed no significant differences from each other or from the control figures. Urinalyses and hemoglobin determinations likewise were not altered. These data suggest the drug may safely be used in obese patients with hypertension.

3. Blood sugar curves in 21 normal adult males were the same following placebo and after single 200 mgm. doses of benzphetamine. These data suggest the drug will be helpful to the obese diabetic.

Thus benzphetamine appears to fulfill the essential criteria for a useful agent in the management of obesity in uncomplicated cases as well as in those complicated by hypertension or by diabetes mellitus.

ACKNOWLEDGEMENTS

We wish to thank William E. Dulin, Ph.D. and Fredericka L. Schmidt of The Upjohn Company for their technical assistance.

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PLEA TO AN M.D. (ANY M.D.)*

Summer, 1960

The doctor is a worthy gent;
His patients claim he's heaven-sent.
The man is knowing, erudite;
But, holy cats! He just can't write!

The surgeon's hands are deft and skilled;
The surgeon's head is *know-how* filled.
Yet why – since he's so doggoned bright –
Cannot the surgeon learn to write?

Dear sons of old Hipprocrates,
Pray hear a troubled nurse's pleas:
Remember that the gals in white
Have got to *read* the stuff you write!

Your physicals and histories,
Like Dead Sea Scrolls, are mysteries;
Your order sheets make nurses squint;
So please, dear sire, *write* right – or print!

– Ceilia Hargrove, R.N.

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Uterine Prolapse in the Young Nulliparous Female*

A POSSIBLE CONTRIBUTING FACTOR

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Two case reports illustrate the fact that the anthropoid pelvis may be a causative factor in uterine prolapse.

IN 1947, H. O. JONES, of Chicago, presented a comprehensive discussion on the subject of uterine prolapse. In it, he dealt primarily with the multiple problems associated with uterine prolapse in general but emphasized those related to such a complication in the young nulliparous woman. In order to stress the latter, he presented the case history of a young musical comedy star who did acrobatic dancing. A part of the dance consisted of being tossed over a high wall near the back of the stage. During one of these particularly strenuous dances, she was suddenly conscious of something protruding from her vaginal orifice. On examination, this proved to be a completely prolapsed uterus.

According to Jones, the immediate cause of this condition was the trauma resulting from being repeatedly tossed over the wall. The imponderables in this case, in his opinion, however, were the factors which allowed a procidentia to occur in this particular young lady. What was equally disturbing was the selection of an appropriate operative procedure which would satisfactorily replace this young lady's uterus so that she might resume her work with a minimum loss of time. Still more important was the selection of a procedure which would in no way interfere with normal intercourse or a succeeding pregnancy.

Difficulties surrounding this problem and the high percentage of indifferent operative results in patients with this complication were, in the opinion of this operator, due to failure in finding and properly evaluating all the initiating factors relating to prolapsus uteri.

Investigation

Impressed by the work of this author and because of the general failure to improve the treatment of these patients in a substantial number of those operated, further investigation was deemed justified. No actual effort to invade this highly controversial field was made, however, until some five years ago.

It was the original intent of this investigation to discover a more intelligent approach, if possible, to the problem of treatment in an effort to increase the number of patients with uterine prolapse who could be successfully operated. As a means of accomplishing this end, it was thought advisable first to review and whenever possible to re-evaluate all factors known to date which could contribute in any

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way to this condition, especially in the young nulliparous female. In the second place, it was felt equally essential to search for any further etiologic agents which could conceivably have been previously overlooked.

With these objectives in view and on consideration of the first of these problems through a cursory review of the voluminous literature relative to all and sundry phases of the subject, one is impressed with the lack of unanimity of opinions both as to the underlying anatomic as well as to the causative factors of uteric prolapse.

It was only at the end of the last century that the controversy in regard to the various pelvic structures relative to the etiology of uterine prolapse was supposedly definitely settled. This was accomplished mainly through the efforts of two investigators in the field, namely Watkins and Wertheim. It was their opinion that the only tissue structures believed to be of any marked value in relation to support of the pelvic organs, namely fascia formations and the pelvic musculature, were of equal importance.

Uterine ligaments

Since that time, however, the entire subject of anatomy and tissue structure as it relates to uterine prolapse has again become controversial. As an example, the relative value of the so-called ligaments and other fascial structures has again been challenged. Their importance to pelvic support, according to certain of the authors, has been erroneously based upon three concepts. The first of these maintained the existence of sheath-like condensations around the various pelvic organs. According to the investigations, chiefly of Bell, Goff, Koster, Lisa, Ricci, Thom and Kron, these condensations are not to be found. As to the second of these concepts, Koster, Goff and Berglas, and Rubin, among others, contend they have satisfactorily proved that the so-called ligaments of the pelvis do not contain similarly described concentrations of connective tissue. Finally, this same group of investigators state that the last of these concepts which maintained the fixation of the fascial connective tissue to the boney pelvic walls has, in their opinion, never been satisfactorily proved.

Still another example is the result of the work of Berglas and Rubin. By an x-ray procedure known to them as myography, they believe that they have shown conclusively the greater importance of the musculo-pelvic floor. This, in their opinion, is particularly true of the levator muscles referred to by them as the levator plate. It is their contention that potential prolapse depends primarily upon any change in the so-called normal anatomic relationship between the uterus and this levator plate.

Finally, as early as 1917, attention was first diverted by Finley from the fascial and muscular structures as the exclusive sources of factors contributing to procidentia. Since then, it has become a more or less generally accepted opinion that prolapse, especially in the nulliparous woman, can also be associated with various bony deficiencies of the pelvis and especially those of the lower lumbar and/or the upper sacral spine. These may include all lesions from the mildest, such as spina bifida occulta and meningocele, to the more severe, associated with extrophy of the bladder.

Other structures

Thus, to date, it would seem that all supportive structures, namely muscular, fascia, and bony, are all involved in varying degrees in the mechanism contributing to the failure of adequate support of the pelvic organs.

What is even more essential to the solution of this problem is the recognition and proper evaluation of all factors and forces which have sufficiently modified these same tissue structures to the point that they no longer give proper support to the pelvic organs in general and the uterus in particular. As recently as 1955, Stearns, among the various workers in this field, stated that there were multiple agents of equal importance involved as causes of this condition. The three most common, in his opinion, were, first, constitutionally inadequate supporting tissue; second, age with its attending trophic changes; and third, trauma, especially that of labor. To these Jacobi adds still a fourth, namely nutritional deficiencies.

Constitutional predisposition

As opposed to the opinion of these two, as well as that of many other investigators in this field, von Graff believes there is only one single, underlying causative factor in the etiology of uterine prolapse. In the discussion of this subject, published in 1933, he states that procidentia, whenever it occurs, depends primarily on what

he calls "individual constitutional disposition." This he qualifies as a functional inefficiency of the mesodermal structures whose inherent "constitution" is "definitely determined for each individual at the moment of fusion of her parental germinal cells." This, in other words, accounts for the marked variation in behavior in different individuals in the presence of the same identical physiologic event. For example, von Graff points out that as opposed to the nulliparous woman with procidentia, there are numerous women who may have had up to 10 or even more deliveries with no evidence of uterine descensus.

According to this theory of von Graff, all other causative factors as cited by Stearns, Jacobi and others, such as trauma, age, and nutritional deficiencies, are initiating agents only of uterine prolapse. They favor the development of descensus exclusively in those individuals who possess such functional inefficiency of the mesodermal structures.

Based upon this reasoning, von Graff divides all women with uterine prolapse into four main groups according to age and to intensity of this deficiency. The first of these groups and the one of primary interest in this discussion includes virgins and all other nulliparous women with prolapse. Among these, he recognizes certain stigma as evidence of mesodermal inefficiency. They include spina bifida occulta along with displacements of the uterus, and various manifestations of enteroptosis. Also included in this group are certain general structural types identified by him.

Of all the theories offered to date as to the factors underlying uterine prolapse, that of von Graff, based upon congenital inadequacy, would seem to offer the most logical explanation of this condition, especially as applied to the nulliparous female.

As previously stated, it became the second objective of this investigation to search for any other contributory agents which might possibly have been previously overlooked. It was hoped by this means also to discover further evidence which might be found helpful in either proving or disproving von Graff's theory of mesodermal incompetence. This study, as will become apparent, is still in its incipiency. It must, therefore, be considered in the nature of a preliminary report only.

Although as a result of Finley's discovery, x-ray of the lower spine had become an established procedure in the routine study of uterine prolapse, especially in the nulliparous woman, a comparative few had been shown to have any evidence of bony defection of this type. It was decided, therefore, to study the bony structure of the pelvis in its entirety.

The initial investigation was a complete x-ray study of the bony pelves of two patients who presented unusual problems. Their case histories are herewith given in detail.

CASE REPORTS

Case 1: Miss M. A., a nulliparous young woman aged 29, was first seen because of pelvic discomfort. Physical examination was essentially negative, except that the patient herself presented a picture of a female with general bony structure definitely larger than average. Examination of the pelvis showed an ovarian cyst with a freely movable 3° retroversion of the fundus and general pelvic relaxation. After a period of observation of some 18 months, surgery was decided upon because of enlargement of the cyst with symptoms suggestive of torsion of the pedicle. Unfortunately, because of the pelvic symptoms, uterine suspension was attempted at the time of surgery. It was noted that the pelvis was unusually large with extra long, rudimentary sacro-uterine ligaments. Imbrication of the latter was done, however, along with a modified Gilliam suspension. Within two months of the operation, all pelvic symptoms had returned. A recurrence of the retroversion with evidence of marked descensus was found. X-ray at this time showed no occult spina bifida. Study of the pelvis tiself, however, showed a large anthropoid type of pelvis. A subsequent Manchester type of procedure with amputation of a markedly elongated cervix was carried out. All symptoms and findings again returned within a few months after this second operation.

Case 2: Mrs. A. J., a nulliparous married woman, when first seen at the age of 26, complained of some vaginal discomfort. A markedly elongated cervix with a freely movable retroverted uterus with some evidence of prolapse was found on vaginal examination. This patient conceived shortly thereafter and delivered at term without difficulty. Although the cervix was found to protrude and descensus was more marked, surgery was deferred. Following a second term pregnancy, when the prolapse was

increased and because of an active chest lesion which precluded more pregnancies, a vaginal hysterectomy was done. The patient was then 31 years of age. X-ray of this pelvis also showed a type of pelvis similar to that found in the first patient. (Her rather large skeletal structure, known to Caldwell and his group as the anthropoid type, was also noted at this time.)

Following the x-ray study of these two patients, it was decided to investigate all nulliparous patients seen by us with uterine prolapse, of 39 years or younger, and all others whose history of the onset of this complication preceded this age. This study consisted primarily of pelvic x-ray whenever possible, otherwise in clinical examination of the pelvis in general and the bony pelvis in particular.

The case histories of all nulliparous women treated for uterine prolapse in the past 10 years at Children's Hospital were also studied. There were some 53 in all, out of which only 10 were of 39 years or younger. Since then, studies of two more patients have been added.

To date, seven patients by x-ray and probably two more out of the 14, were found to present evidence of the existence of the anthropoid pelvis. This pelvis, with its unusually large inlet, especially the anteroposterior dimensions and the presence of the straight sacrum, suggests definite inherent weaknesses of the pelvic sling. Members of the x-ray department at Children's Hospital frequently refer to the woman with this type of pelvis as "Fanny Open Bottom." Recognition of women with such a type of pelvis, even in the absence of an x-ray, is possible. The true anthropoid type of female, as described by Caldwell and Malloy, is usually taller than average but may at times have short legs with a proportionally large torso.

Discussion

The question naturally arises as to the relative value of such a study to the over-all solution of the problem of uterine prolapse in general and in the young nullipara in particular. One can only say that the larger size and greater depth of the pelvis associated with uterine prolapse has been previously noted at various times in the literature. However, to our knowledge, no attempt has been made thus far to establish any particular type of pelvis as predominant in these women prone to prolapse. In view of our findings, so far, however, the possibility that one type in particular, as opposed to all others, strongly suggests itself. This particular pelvis is referred to by Caldwell and Malloy as the anthropoid pelvis; Murphy as "infantile pelvis," and previously by Baudoloque as the "assimilation pelvis." All imply faulty development; all imply faulty mesodermal structure, as suggested by von Graff.

In consideration of any clinical significance of such a finding, it should be noted that treatment of any complication of this kind can be divided into (1) preventive, (2) conservative, and (3) definitive.

Regarding the question of preventive treatment in gynecology in general, Schuman in a recent talk stated that "in gynecology, we are still entirely too surgically minded. We can cure disease rather than attempt to prevent it." He then concludes, "I believe that it may be said that should the gynecologist devote himself with great assiduity to the prevention of the occurrence of lesions of the pelvic organs, his work will be crowned with success."

Preventive treatment

Thus, the preventive forms of treatment in this, as in any other gynecologic condition, should assume a new importance. It is difficult, however, with our present knowledge, to find any application of this or any other positive finding of any specific value in the preventive treatment of uterine prolapse in the nulliparous woman. However, in our opinion, it does not have a definite application in preventive treatment of this condition in general, especially in the field of obstetrics. It is particularly within the province of the obstetrician to choose those methods of procedure in delivery which are least likely to further weaken supportive structures which are already inherently defective. This applies to any pelvis in which an extrophy of the bladder has occurred with its associated bony defects. It also applies to any pelvis with other associated bony defects such as meningocele, spina bifida, or spina bifida occulta. Finally, in our opinion, it also applies to patients in whom an athropoid type of pelvis may be found.

Surgical treatment

Because it is of little value to any group primarily interested in surgery, the second or conservative form of treatment will not be considered here. The question finally arises as

to any importance such as investigation might have in the definitive or surgical treatment of uterine prolapse. Until that day which Schuman visualizes when and if all such gynecologic complications can be entirely prevented, surgery must play an important role in their correction. Thus, for an indefinite period of time to come, any factors found which could be of added help in approaching the problem of prolapse, especially in the young nulliparous woman, can be of distinct importance.

To be of value in this latter group, however, any operative procedure must return the uterus to its normal position. It must not interfere with normal intercourse. Even more important, it must in no way handicap or prevent a succeeding pregnancy, should that occur.

This eliminates a vast majority of the 300 or more surgical procedures described in the past in the treatment of uterine prolapse. Assuming the large anthropoid pelvis to be present in at least a definite percentage of these patients, the presence of the elongated sling and the resulting rudimentary sacro-uterine and round ligaments could conceivably account for failure in certain of these procedures. This is especially true of those which depend upon these same ligaments.

It was not until 1914 that the work of Fothergill, along with that of Donald in Manchester, dispelled the theory that a cure for uterine prolapse could only be accomplished by narrowing the vagina. This followed closely upon the discovery of Machenrodt of the ligaments which bear his name. It is utilization of these ligaments which forms the basis for the Manchester of Donald-Fothergill-Shaw operation, described at that time.

It would seem that the very fact that this same operation has survived even to the present proves it to be the one procedure which has best corrected uterine prolapse in the largest number of nulliparous patients to date. However, this fact combined with the substantial percentage of failures in the operative treatment of this condition, even in the most capable hands, would definitely imply that there are other factors which contribute to the cause of procidentia uteri which as yet remain undetected. Until that time when they are discovered and properly evaluated, such an investigation as is herewith presented would seem to be definitely justified.

DR. JOHN D. PORTERFIELD
DEPUTY SURGEON GENERAL, U. S. PUBLIC HEALTH SERVICE

Of the 10 million persons in the nation who have heart disease — 4 million — 40 per cent — are 65 or older. At any given time, some 750,000 persons have cancer and most of these are persons who are over 65. Almost 3 million persons have diabetes and the elderly have more than their proportionate share. This is also true of the 5 million who suffer from arthritis and the 6 million who are affected by related rheumatic disorders.

Forty-three per cent of those who are 65 or older are limited in activity — compared to 10 per cent of all ages. Only 3 per cent of all ages have limitations of mobility — compared with 19 per cent of those who are over 65.

Hearings on Health Needs of the Aged (April 4-6, 1960)



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Patients frequently fail to follow the physician's instructions. They take medication at irregular intervals. When this occurs with drugs such as dextro-amphetamine sulfate, phosphate or hydrochloride, excitation may result. A balanced combination of Dextro-amphetamine hydrochloride, **the preferred salt,** plus a balanced daily dose of Amobarbital will give the expected therapeutic results *without* excitation.

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INDICATIONS

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Which provide prolonged, continuous therapeutic effect over a period of 6-10 hours

SAMPLES AND LITERATURE UPON REQUEST

Testagar & co., inc. 1354 W. Lafayette Blvd. Detroit 26, Michigan

Arizona Medical Association Reports

The President's Page

THE MEDICAL JOURNAL ARGUMENT

Lindsay E. Beaton, M.D.

Before the decision was made to have the Arizona Medical Association undertake the publication of *Arizona Medicine*, the Editor asked the Board of Directors seriously to consider the possibility of discontinuance. He thereby acknowledged not only the special problems of our journal but also the existence of strong opinion that there are too many medical magazines and particularly too many sponsored by State societies.

Already is it clear that the judgment to perpetuate *Arizona Medicine* and to publish it ourselves was correct. Technical contraindications have vanished with the change in management, and the periodical has become a worthy rostrum for scientific contributions and a bright and lively envoy of the Association. It is taking giant strides under the direction of an exceptionally able and devoted editor and an imaginative and conscientious editorial staff. This essay discusses the general reasons that indicate a need for a State medical journal; to it should only be added our felicitations to Dr. Neubauer and his associates for giving immediate substance to our hopes.

Any physician who has neglected his reading for a month and has suddenly faced a reproachful heap of periodicals will be tempted to make noises of fervent assent to the regular and predictable eruptions of those who violently believe that there are too many medical journals. But, after the echoes of the hallelujahs have died away, one is chilled by such propositions as that made some years ago by Henry Davidson in *Medical Economics* that the medical literature be restricted through limiting each specialty to two journals, or by the often repeated recommendation that State Medical Association magazines be abolished. This sounds like a classic case of the old banality of an uncomfortable disease and a fatal cure.

In the first place, are there too many medical publications? Can there be too much knowledge? Is there such a thing as a plethora of facts? Only if a certain assumption is made. If a busy clinician feels that he must read word for word every article in the world literature related to his field, then there are surely too many journals. However, there is a word for this. It is obsessive. If any physician has set himself this Sisyphean labor, he had better put aside that last issue of the Annals of Pipe Dreams and hurry uptown to see one of his confreres. You know which one. Colleagues who complain on the other side that they can read only two journals thoroughly a month can perhaps get by with a remedial reading teacher.

What is the purpose of the medical literature? Fundamentally to instruct, to call attention as quickly as possible to new data which will assist the practitioner in caring for the sick. Secondly, to provide channels of communication between physicians interested in common problems. Thirdly, to create the formulated body of knowledge of medical science. Fourthly, to reinforce the linkages that make organized medicine organized, through reports of societies and meetings and through discussion of the many matters which, though non-professional, are of vital concern to all doctors.

The last of these functions causes little contest, though there are those who disagree. A let-

ter-writer to another periodical has complained of being obliged to receive the *Journal of the American Medical Association* because of membership in the American Medical Association. The gentleman may be reminded that he is still a physician, no matter how narrow or famous a specialist. His attitude is divisive; and the body of Medicine badly needs to remain whole. Every M.D. should read the *Journal of the American Medical Association* and the publication of his State Association for news content and for general medical information. If we must lay down rules, perhaps there should be one compelling the specialist to study a given number of articles outside his own field every month.

Medical periodicals are not ephemeral. "Books," said Thomas Jefferson, "constitute capital; a library book lasts longer than a house; it is not, then, an article of mere consumption, but it is capital." This is true of medical journals; more than medical books they represent the invested funds of Medicine. In them live boundless resources, ready for release by the simple act of reference. Journals are meant to be kept. The vandalism of physicians who throw periodicals away unopened is shocking. Even in large cities with ample library facilities doctors treasure their own collections of the literature. Complete files in the Univeristy stacks are often less useful than the loved volumes on one's own shelves.

Journals are irreplaceable as the open roads of scientific interchange. But every article is not meant for every reader. At the extreme one could easily defend the position that a paper that is read by a single interested confrere was worth the writing. You may have never heard of your kindred spirit, and he may live a half a world away, but you are brothers. Remember, after your first published effort, when you got a reprint request postcard from Tegucigalpa or Helsinki? The very existence of numerous medical periodicals provides representation for varied scientific interests and local problems and is a strong force for true internationalism in the profession.

Most important of all is the educational action of journals in constantly supplying new tools to implement the physician's therapeutic need. The sacrifice of a number of publications would in effect reduce post-graduate instruction. Of course, the literature is repetitious. It is bad enough to burn printed information; it is worse to prevent its birth in type. Who are the omiscient editors who will decide which elite papers are entitled to contracted journal space? And what criteria will they use? The research that some find "mediocre" may throw light on a little project of mine. The "routine" case report may jog my memory and save a patient's life. The "monotonous" review of the literature is what I ordered — just so I do not have to dig out the source material for myself.

Not that journals cannot be improved in the interest of more efficient service to the subscriber. Adequate summaries, in several languages, could be the rule for all contributions. Many scan summaries as guides to what they want to study more thoroughly. More careful organization of articles, so one could skim them quickly without getting bogged down in detail, would add to the speed of reading. But the final need is good reading habits on the part of the doctor. And that, as Mr. Kipling said, is another story.

Each specialty should have an abstracting journal. *Excerpta Medica* meets the need only in part; its condensations are too brief and capriciously classified. Abstracts in the *Journal of the American Medical Association* and the specialty organs are too selective to grant broad coverage. A system of publication on filing cards, like those issued by the Wistar group of periodicals, might be the most efficient answer to the problem. The physician would then have the nucleus for a reference file of bibliographies in his field. With photostats and microfilms, with reprints, with the *Index Medicus* now published monthly by the National Library of Medicine, and with one's own books and bound periodicals, the clinician could collect a personal library of tremendous utility. Yes, it would cost a little, but can the doctor's money find better use?

As a practicing physician I am against any move which would reduce the amount of information available to me. I would risk a lot of redundancy to assure a rich and free medical press. If I must choose, I would rather see more journals than fewer. And one of the first I want is my own State Association publication.

Osler once wrote, "It is astonishing with how little reading a doctor can practice medicine, but it is not astonishing how badly he may do it." An argument against curtailment of the professional literature is on the side of the angels. Or at least of Sir William Osler.

REGISTRATION — 1960 ANNUAL MEETING

1021 Central Towers Building
Phoenix, Arizona

County Medical Society	Total Membership	No. of Members Registered	% of Members Registered
Apache	3	2	66%
Cochise	26	4	15%
Coconino	23	10	43%
Gila	20	5	25%
Graham	8	4	50%
Greenlee	6	2	33%
Maricopa	596	211	35%
Mohave	3	1	33%
Navajo	7	5	71%
Pima	289	72	25%
Pinal	27	9	33%
Santa Cruz	8	5	63%
Yavapai	20	5	25%
Yuma	33	2	6%
Non-Members — Including Guest Orators, VA, Interns, Military, Out-of-State doctors, etc.		68	
TOTAL REGISTRATION OF MEDICAL DOCTORS		405	

SUMMARY OF ANNUAL REPORTS BY COMMITTEE ON REPORTS AMA ANNUAL MEETING

Scottsdale, May 4, 1960

The Committee on Reports recognizes that our delegates have received the complete committee reports and have thoroughly digested all the details. However, it has been our charge to summarize such reports for final reading on the floor of the house. The committee apologizes for any omissions and hopes that the authors of the various reports will understand the difficulty in summarizing and digesting a report that contains issues and discussions all of which are important. The committee would be remiss if it would not congratulate the various committees who, over the past year, have been most diligent in their efforts and have sacrificed themselves and their time way and beyond the call of duty. As Chairman of Committee on Reports I should like to thank the individual members of my committee for the effort in drawing up the summaries as will be given.

REPORT OF THE DELEGATE TO AMA

The delegate to the American Medical Association, Dr. Jesse D. Hamer, comments upon the honor and pleasure of his twenty-five year tenure in this office and other offices of our association. The Committee on Reports would be remiss if it were not to point out to the House of Delegates the extremes of sacrifice shown by this officer over these many years. All meetings have been attended with the exception of two.

All meetings were attended this year to the House of Delegates of the AMA, the meeting at Atlantic City in June and the Clinical Session in Dallas in December. Other meetings that were attended were the conference at Salt Lake City in April, 1959, conference at Atlantic City in June, 1959; workshop in Ann Arbor, Michigan June, 1959 sponsored by the HEW, Washington, D. C. Also a meeting was attended in April, 1959 with the AMA and Senator Goldwater. Several meetings were attended in Arizona. All of these were concerned with the problem of the aging and the aged.

A meeting was attended July, 1959 before the U. S. House Ways and Means Committee to file and present a statement against the Forand Bill.

A summary of the activities of the above meetings were presented to the Professional Committee of our association. The Committee on Reports moves that this portion of the report with singular attention to a devoted, honorary servant of Arizona Medicine, Jesse D. Hamer.

REPORT OF NORTHEASTERN DISTRICT DIRECTOR

The District Director points out the increase in population in the counties of Navajo, Apache and Gila and the need for more physicians is

in evidence. The Committee urges every member of the State Association to attempt to interest younger men in practicing in smaller towns especially in the areas mentioned. It is felt by the Director that the next candidate for membership of the Board from this area of Arizona should be selected from Gila County, which has not been represented for some nine years.

REPORT OF NORTHWESTERN DISTRICT DIRECTOR

The Director reports the formation of a Northern Arizona Academy of General Practice and completion of the Northern Arizona Medical Seminar which is to be held again this year. The initiation of investigation of care of civilians by Military Medical Officers at the Navajo Ordinance Depot Hospital at Belmont was noted. The District Director has been working with officials at Arizona State College, Hospital Administrators, Nurses and Laity to promote two year nursing course at the College in Flagstaff.

REPORT OF SOUTHWESTERN DISTRICT DIRECTOR

"All quiet on the Southwestern Front!!" All "polio shots" campaigns were handled by the physicians — no unions were called on to aid in our program.

REPORT OF SOUTHERN DISTRICT DIRECTOR

The Director from the Southern district has attended all the Board of Directors meetings as well as meetings of local medical society throughout the year. As Chairman of the Professional Liaison Committee his activities have been voluminous in that respect and all meetings were attended. Nothing unusual in the district at large is worthy of report.

REPORT OF CENTRAL DISTRICT DIRECTOR

The Central District Director, even in face of personal illness, has been kept well informed of the activities in his district and the most recent meetings have all been attended. The Director commends the tireless efforts of our Exceutive Secretary, Mr. Robert Carpenter and of the entire Central Office force. Through their help he was able to carry on his charge of office in an excellent manner. The Director reports that the year in regard to the Central district was most quiet and there were no problems of unusual magnitude.

REPORT OF GRIEVANCE COMMITTEE

A total of 16 complaints were directed to the Grievance Committee. Of this number, 3 were ultimately withdrawn by the plaintiff, 9 were referred to the proper component county medical societies and 2 were brought before a meeting of the committee and officially heard. Two are pending before the State Committee. Two cases heard by the committee were reported to the Board of Directors with recommendations which were upheld by that body.

The Grievance Committee feels compelled to request the attention of every physician to recognize that public confidence in organized medicine must be maintained. Committees must be willing to perform delicate and sometimes most difficult tasks. Component county medical societies must accept their responsibility and act upon a complaint fairly and with a minimum of time or the effectiveness is lost or at least questionable. Your Grievance Committee in keeping medicine's house in order is maintaining public confidence in the profession as a whole. The Committee requests that physicians never lose sight of the fact that today, as never before, a physician's every action reflects not only on himself but also upon the entire profession.

REPORT OF HISTORY AND OBITUARIES COMMITTEE

Fourteen members of the Arizona Medical Association, Inc. were lost to the Association through death from May 1, 1959 to the present. The committee reported with satisfaction that the association has caused to be bound in 6 volumes and filed in the central office of the association a collection of medical, historical material pertaining to Arizona which was collected and left by the late Dr. Orville Harry Brown. The committee also reported that Miss Eleanor B. Sloan, historical secretary of the Arizona Pioneer's Society volunteered to help and cooperate with members of the association who wish to use material in and from the library of that society for study and research into matters pertaining to the history of medicine in Arizona. The committee recommended that Miss Sloan be given appropriate recognition and thanks for her offer and that this offer be given suitable publicity through Arizona Medicine so that members of the association might become aware of this opportunity.

REPORT OF THE INDUSTRIAL RELATIONS COMMITTEE

The Industrial Relations Committee has met at monthly intervals except for the month of August. Basic activity of such committee is for the most part in counseling the claims department and the department of fees of the Industrial Commission of Arizona. The Committee reports the impression that many of the problems which arise in administration of fee schedule result from misinterpretation of the rules which are set forth in the fee schedule, or a misinterpretation of the intent of the industrial law as it pertains to medical care. The committee feels that with further experience in the use of the relatively new fee schedule that the problems for this committee will gradually decrease. The committee wishes to commend the physicians in the State of Arizona for the provision by them of excellent medical care for the industrial employee.

SUMMARY REPORT OF LEGISLATIVE COMMITTEE
for
House of Delegates Meeting, May 1960

One of our most important committees dealing with organized medicine of the state and the legislature is our Legislative Committee. This committee has been very active. It has been necessary for them to spend many hours studying important legislation in the past. At one of the early meetings they considered a number of legislative matters and recieved some eight in number: four of them dealing with the Department of Health, one dealing with the Corporation Commission, another dealing with fluoroscopic shoe fitting and others dealing with related medical problems, particularly with the problem confronting doctors in Coconino County and the Navajo Ordinance Depot.

One of the most important measures on national legislation is the problem of the Forand Bill and this committee along with other committees of the organization as well as the President waged a battle on the county, state, and national levels.

This committee submitted an addendum after the Second Regular Session of the Legislature indicating that the committee actively supported two MUST legislative measures which became laws relating to the Superintendent of the State Hospital and to the Commissioner of Public Health.

The Legislative Committee also followed six other bills in which the Association was interested and these were likewise enacted into law: an Act relating to Non-profit Corporations; an Act making a supplemental appropriation to the State Department of Health for the State Tuberculosis Sanatorium; one making an appropriation for planning and construction of a tuberculosis sanatorium; one relating to the installation of necessary equipment for the Southern Arizona Branch of the State Laboratory; an act relating relating to Public Health, defining a tuberculosis person; and an act relating to narcotics.

Some 22 bills in which the Association did not specifically give direction were followed by the committee, died and were not enacted into law.

SUMMARY REPORT OF MEDICAL ECONOMICS COMMITTEE
for
House of Delegates Meeting, May 1960

The Medical Economics Committee is one of the active committees of the State Medical Association. With the revision of the By-Laws this committee is made up of a number of subcommittees.

The work begun by Dr. Caldwell's committee on the Industrial Fee Schedule was concluded by the Sub-committee on Fees and Contractual Medicine of the Medical Economics Committee. They investigated and studied the problems and arrived at the following conclusions:

This sub-committee is in favor of the employment of a relative value scale for the setting up of average fees for surgical and medical procedures, keeping in mind the traditional principles of the private practice of medicine with its free choice of physicians and the free acceptance of patients by the physicians. The relative value scale may be adopted from the California Relative Value scale, modified to suit the needs of Arizona.

This average fee schedule is to be available to all insuring groups in their development of costs for prepaid medical and surgical care insurance. Special consideration is to be given to the problems of the needy retired and aged senior citizens. The average fee schedule is to be related to the cost of living index in any future adjustments.

Dr. Lentz's Sub-committee on Insurance has been studying problems relative to the Simpson-Keough bill.

The Sub-committee on Medicare had a relatively inactive year.

The Sub-committee on Federalized Medicine has not been active.

REPORT OF PROFESSIONAL LIAISON COMMITTEE

With newly-organized sub-committees in nine areas of vital interest, the Professional Liaison Committee, under the able chairmanship of Dr. Steen, achieved much and prepared the soil for future achievement on behalf of Organized Medicine in Arizona. Subcommittee highlights include the following:

1. PUBLIC HEALTH:

Newly created by this house of delegates last year, in cooperation with the legislative committee, and widespread local physician liaison with the legislators, a start on upgrading the State Health Department was achieved. This subcommittee recommends appointment of local county laision committees to local public health departments; recommends physician and local public health department direction of Polio immunization, rather than lay group sponsorship.

2. American Medical Education Foundation:

This subcommittee reports that many State Medical Societies have adopted our Annual Dues increase plan for support of AMEF. In some cases, this amounts to $25 per member, whereas in Arizona it has amounted to $10 annually since 1957. Additional monies have been raised by the Arizona plan for gifts at Christmas, and through efforts of the Women's Auxiliaries.

3. Governmental Medical Staffs:

Has investigated an unhealthy practice at the Naval Ordnance Depot at Flagstaff. The Medical cadre has been not only caring for the military personnel, but serving some four-hundred plus civilian employees and their dependents. It is desired that this be discontinued, as there are adequate civilian medical facilities and practitioners in Flagstaff. A protest memorial to the proper designated officials is under study.

4. Schools:

Prepared exhaustive study of school health, encompassing the aspect of (1) Delineation of health needs. (2) Follow-up and interpretation. (3) Care of emergency illness and injury. (4) Disease prevention and control.

4. Auxiliary.

The auxiliary, after study, decided to continue scholastic loan funds in fields of nursing, graduate nursing, and medical technology.

Other subcommittee and the major committee reports are also in the hands of the delegates.

REPORT OF THE EDITOR AND PUBLISHING COMMITTEE

Previous to 1959 Arizona Medicine was published by Mr. McMeekin. The Editorial Board and Publishing Committee believed that a dissolution of the ties with the above publisher be obtained and in 1959-1960 Arizona Medicine was published in the office of the editor. When the reorganization is complete it is plausible that the journal should be entirely self-sustaining and even paying part of the expenses of the state organization.

At present the business office of the journal is at central office run by Mr. Paul Boykin. The editor's office is 720 North Country Club Road, Tucson, with a full time secretary. Make-up, art etc., is aided by the Press Bureau of the University at Tucson, Mr. DeVries does proof-reading for which he is paid, Doctor Ortiz does proof-reading on Spanish articles for no pay.

Fundamentally the editorial staff is as follows: Louis Jekel, M.D., History; Leslie Smith, M.D., editorials; Clarence Robbins, M.D., Richard Dexter, M.D. and Andre Bruwer, M.D., editing of original articles; Doctor Fonseca, liaison. Printing is done by the Lebeau Printing Company who underbid nearest competitor by 25%.

The journal has been advanced $8000.00 which will be repaid. The Board of Directors has requested a budget for the coming year. Although there may be some inadequacies, due to lack of publishing experience, a budget is submitted attached.

Like other state journals a subscription price of $3.50 to $5.00 is recommended, and likewise the mailing of the journal to members of the Medical Society of the United States and Mexico will cost about the same.

The transition we have gone through has not been easy. The negotiations of this transfer are not complete and legal counsel is necessary to complete it. Libel insurance has been purchased and will be carried.

We recommend that the Association offer prizes to the young men in medicine in our state to submit original articles. A review of the literature on treatment of skin cancer, rheu-

matoid arthritis, asthma, etc., which are particularly appropriate in this region, is recommended.

The Committee on Reports wishes to point out to the delegates the extremely difficult and trying times that have confronted the Editor, the Publishing Committee, and the central office with this transition. The details and problems are so complex and many that it has taken, in the mind of the committee, a rare individual to pursue patiently and without bursts of anger, work which will ultimately give us a journal of which we can be proud. The committee wishes to applaud Dr. Neubauer and his staff as well as the central office for the magnificent work and display of self-control.

REPORT OF THE PRESIDENT-ELECT AND SCIENTIFIC ASSEMBLY COMMITTEE

The duties of the president-elect are basically twofold, namely, member of the Board of Directors, and Ex-officio member of all duly constituted committees. Secondly he is charged with the Scientific Assembly Committee in the formation of the annual meeting program. The Chairman thanks the members of his committee for their diligent and imaginative attention to the task of such committee. The Chairman recommends that in the appointment of the committee members that the Chairman of the Professional Committee and Publishing Committee should be considered. It is further recommended that as a member of the scientific committee one of the members of the program committee for the Arizona Chapter of Arizona Academy of General Practice should be considered.

The committee on reports again would be remiss were it not to congratulate the Chairman and members of this committee for their tireless efforts leading up to our present assembly. This meeting has all the appearances of being not only scientifically of great value but it apparently has many unique aspects. As has occurred many times in the past we can look with interest to the imaginative doing of our esteemed and scholarly president-elect.

REPORT OF THE CENTRAL OFFICE ADVISORY COMMITTEE

The committee reports a change of the central office location. It reports assimiliation of business management of Arizona Medical Journal and has clarified, and in some instances limited, the services required of the Executive Secretary in serving standing and subcommittees. Legal services needed by our association in 1959 and the cost thereof has been reviewed, as well as has the bonding coverage of officers and employees of Arizona Medical Association. Budgetary and accounting problems which will become acute in the future as result of the growth have been considered and are under further study. The committee recognizes tremendous increase in the volume of work assigned to the Central Office and thanks the Executive Secretaries and Central Office personnel for their untiring efforts.

REPORT OF THE PUBLIC RELATIONS COMMITTEE

The public relations committee has continued several programs of the years past. Central Arizona Scientific Fair, Southern Arizona Science Fair, Northern Arizona Science Fair, each offered $50.00 in prizes for outstanding young scientific efforts. The committee rejected the opportunity offered by the Arizona Press Club to participate in the annual rewards program inasmuch as the program has excluded prizes for good journalism in the field of medicine. Information pamphlets were made available for physicians of the state and rural health articles sent out by the AMA have been published and received with enthusiasm.

REPORT OF BENEVOLENT AND LOAN FUND COMMITTEE

Two meetings were held by the committee and applications for loans were considered at both meetings. Five loans totaling $5,400.00 were approved and two others for a total of $3,000.00 approved pending enrollment in medical school. The committee recognizes the difficulty attendent upon organization of such loans in the past but believes that future loans can be made with minimum difficulty and made on the basis of need and satisfactory scholarship attainments. It was further determined by the committee that the earnings of the benevolent loan funds from April, 1956 should be set aside for needy members of the Arizona Medical Association, Inc.

REPORT OF PROFESSIONAL COMMITTEE

This extremely active and important committee was chairmaned by Dr. John Swartzman. To he and his committee we owe a sincere debt of gratitude. Four meetings were held during the year.

The problem of the aged was studied by the subcommittee and upon committee recommendation resistance to the Forand Bill was submitted

as a recommendation. The problem of the aged is being still further studied as to a workable solution.

A major project that has continued throughout the year has been inspection and evaluation of the North Mountain Hospital in Phoenix. A report was written and submitted to the Board of Directors for its consideration.

The problem of possible repeal of that portion of the state statute requiring examination as to pre-marital serological test was studied and a recommendation made to the Board of Directors. A resolution was written and forwarded to such Board for their consideration and possible presentation to the House of Delegates.

Problem of rehabilitation is being considered currently and progressively and will continue to be a matter of study by the committee. The committee is also in the process of studying crippled children's work in the state referable to cataloging and appraising the facilities for the care of the crippled. It is anticipated that a complete report will be available next year.

One major project that was considered in great detail by the Committee was the practibility of considering closed panel medicine, 3rd party medicine and physicians fees. Further consideration is anticipated in the future and the matter was referred to the Fee and Contractual Medicine Committee of the state association for further consideration.

REPORT OF CHAIRMAN OF BOARD OF DIRECTORS

The Board of Directors of Arizona Medical Association, Inc., held five formal meetings during the fiscal year. At such time over one hundred fifty major items of business as well as changes in membership classification etc., were taken up. The reports of the various committees were reviewed.

The Board of Directors wishes to comment most favorably upon the activities of the various committees who have spent literally hundreds of man hours in deliberation and in the preparations of conclusions and recommendations. Their unselfish devotion to medicine and the Arizona Medical Association is worthy of the highest commendations.

REPORT OF THE VICE PRESIDENT

The Vice President attended all meetings of the Board of Directors serving as Chairman. He points out that no other specific duties were required because of the diligence of the President, Dr. Melick.

REPORT OF THE SECRETARY

Since April, 1959, 55 new members have been admitted from the component county medical societies. The majority were from Maricopa and Pima counties while the other counties fluctuated slightly. There are now 1052 members, compared to 997 last year. Of these 969 are active members, 29 are service members and 54 are associate members.

The Board of Directors held 5 meetings last year.

The Secretary reports that the officers and all committees have been extremely active as evidenced by work done, meetings held and reports and recommendations written.

WOMAN'S AUXILIARY PRESIDENTS' REPORTS

MARICOPA COUNTY

The Woman's Auxiliary to the Maricopa County Medical Society has concentrated much of its efforts for this year on enlightening its members and the general public on the Forand bill and the reasons that the American Medical Association and all clear thinking people oppose it. Dr. D. W. Melick, President of the Arizona Medical Association, spoke at our luncheon meeting in November. He emphasized the importance of reaching the public and the nursing profession and educating them to the dangers of the Forand Bill. Auxiliary members wrote letters to their Congressmen opposing the bill. During the first part of December the Legislative Committee held a special meeting of the presidents and legislative chairmen of the various women's clubs of Phoenix. At this meeting a panel, moderated by the Honorable John Rhodes, Republican Representative, discussed the limitations, faults, moral and economic drawbacks of the Forand Bill. In March a resolution opposing the Forand Bill was passed by the members. A copy of the resolution was forwarded to our Congressmen and Senators in Washington.

Membership in Maricopa County to date this year numbers 340.

Auxiliary programs have followed the suggestions of national with a mental health program panel discussion, a report on "Ancient Healing Cults", speakers emphasizing the dangers of the Forand Bill, public relations emphasis and coordination with the Phoenix Art Museum and

the Phoenix Symphony Orchestra, and social activities and projects.

The Auxiliary again sponsored the AAPS Essay Contest with awards presented to the three winners. Fund-raisng projects were sponsored for the American Medical Education Foundation, Para-Medical Careers program, the Maricopa County Child Guidance Clinic and the Visiting Nurse Service. Christmas toys were donated to the Community Council Toy Shop.

Through the combined efforts of the officers and special and standing committees as well as the general membership, the aims and purpose of the Auxiliary have been successfully carried out.

Mrs. Thomas O. Rowley, President
1959-1960

PIMA COUNTY

The accomplishments of this year have been due in great part to the wonderful working "togetherness" of the Board of Directors and the membership plus support from the County Medical Society.

Current membership numbers 223, an increase of 15%. Social activities for newcomers included a coffee and a dinner dance. In November the Auxiliary sponsored a reception at the U of A Student Union for Dr. Randolph Lovelace II, following the Sunday Evening Forum. His topic was "Man in Space."

In the hospitals in Tucson we have 35 foreign residents and interns. This year the Auxiliary set up a program for this group, assigning each one to a doctor and his family, asking them to entertain the resident or intern in their home so that they might become more familiar with our customs and the American way of life.

In November our State officers reported on the Chicago conference. For other programs we elected to highlight three phases of auxiliary work: Safety, Community Service and Paramedical Careers. The program on Safety was a panel, "The High School's Safety Council." The Community Service program was a joint meeting with the Southern Arizona District Dental Auxiliary, and the subject was "State and Local Action on the Youth Studies." The subject of our March meeting, a panel discussion, was "Opportunities in Paramedical Careers."

Fund-raising projects were sponsored for Paramedical Careers and the American Medical Education Foundation through a fashion show, benefit luncheon, Christmas bazaar, bridge marathon and sales of greeting cards and note paper.

Members of the Auxiliary were invited to two dinner meetings of the Medical Society. On the one occasion a film on Socialized Medicine in England was presented; at the other Dr. Russell Cecil was the guest speaker, his subject, "Rheumatoid Arthritis."

At our annual meeting 20- to 25-year members will be honored.

Mrs. Max Costin, President
1959-1960

YAVAPAI COUNTY

The objectives set forth at the beginning of this year have been met, and I feel surpassed, due to the assiduous effort of each member of the Woman's Auxiliary to the Yavapai County Medical Society. Co-operation was found with abundance, and productivity was the result. With the small membership of this auxiliary I feel our potential has been approached as never before. We would like to create fellowship and understanding within our group in conjunction with our auxiliary projects and would like to feel this has been a goal met.

For the past eight years this auxiliary has sponsored and delegated duties for the annual Charity Ball given in December. This is a public affair, and proceeds have been designated for purchase of hospital equipment at the Prescott Community Hospital. This year the event brought forth the greatest total to date. We were greatly aided by the Hospital Auxiliary.

One of our fund-raising projects, our annual rummage sale, netted an increase over past years. Another was sponsored for the American Medical Education Foundation.

For "Health Careers Recruitment Week", a tour of the Whipple Veterans Administration Center was planned for approximately thirty girls and boys and proved highly successful.

Programs at regular meetings have included a Civil Defense film and a Safety program concerning "Driver's Training Course" in the high school.

Social events included a family picnic early in September and potluck dinners at regular meetings. The potluck dinner at the April meeting was shared with the wives of local dentists as our guests.

These are a few of the projects we have undertaken for the year. I could hope that along with

the visible and noteworthy accomplishments of this fine group of doctors' wives, friendly relations were cultivated, rapport and mutual understanding were gained and that we excelled in our assistance to the medical society.

Mrs. Ray P. Inscore, President
1959-1960

LOCATION OPPORTUNITIES

ASHFORK — Population 700. North centrally located — Railroad center. Contact the Women's Club, Ashfork, Arizona.

BAGDAD — Population approximately 2,000. Opportunity for GP who is willing and able to do obstetrics and general surgery. Mining community. New 12-bed hospital. Excellent income possibilities with initial guarantee. Second doctor needed due to increased volume of work. Excellent housing and schools. For further information, contact Richard G. Hardenbrook, M.D., Bagdad Hospital, Bagdad, Arizona.

CAMP VERDE — Located in the heart of a large farming and ranching area on the Verde River. Approximately 100 miles north of Phoenix. Badly in need of a medical doctor. Contact Ivy N. Moser, R.N., Camp Verde, Arizona.

EL MIRAGE — Population 2,000 — and including the trading areas of Surprise, Youngtown, Peoria and Luke Air Force Base, the population is estimated at 7,000 to 8,000 persons. Opportunity for a GP due to retirement of doctor currently serving, with the possibility of school service. Climate is excellent, warm and dry. Office facilities are available and in the area surrounding El Mirage from Glendale (9 miles) to the east, and Wickenburg (35 miles) to the west, there are only two doctors to serve this community. The need for an M.D. and/or surgeon is very real and one should do very well. For information write Mr. H. Faulkner, Town Clerk, Town of El Mirage, El Mirage, Arizona.

ELOY — Need a doctor of medicine, preferably a GP. Population of 4,000 in farming community with several small towns near by. Located approximately midway between Phoenix and Tucson. Contact Howard H. Holmes, M.D., Eloy Medical Center, Eloy, Arizona.

GLOBE — Population 10,000 and including the mining and cattle areas of Miami, Superior, Ray, Hayden, Winkleman, Payson and San Carlos; population estimated at 30,000 persons. Located about two hours by car from either Tucson or Phoenix. No ENT man in the area. Ideal climate, with the best area for outdoor activities. Contact Eugene R. Rabogliatti, D.D.S., 149 S. Broad Street, Globe, Arizona or A. J. Bosse, M.D., 245 South Hill Street, Globe, Arizona.

HOLBROOK — Population approximately 5,500 — elevation 5,080. Excellent opportunity for GP. Arrangements can be made to take over existing vacancy in practice. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Arizona.

MIAMI — Opportunity for GP — Industrial hospital staffed by approximately seven doctors, who care for personnel and families of those who work for the three principal mining companies. Community served by many mining and ranching interests. Contact R. V. Horan, M.D., Miami Inspiration Hospital, Miami, Arizona.

MORENCI — Mining community near New Mexico-Arizona border. Population 10,000. Has vacancy at hospital for GP. Contact C. H. Gans, M.D., Morenci Hospital, Morenci, Arizona.

PAGE — Population growing by leaps and bounds at the site of the new Glen Canyon Dam Project. Current estimates are 6,000 to 8,000 total. Only one M.D. is now located in Page and he has facility available. Located about 90 miles north of Flagstaff. Building project is estimated to be concluded in ten years. Write Ivan W. Kazan, M.D., 6th Avenue & South Navajo, Page, Arizona, for full details.

PHOENIX — Excellent opportunity for Ophthalmologist or EENT man as associate. Contact E. G. Barnet, M.D., 1120 Professional Building, Phoenix, Arizona.

PHOENIX — Maricopa County has several excellent associations (salary or partnership) available in metropolitan Phoenix and surrounding towns in General Practice, Ophthalmology, ENT, Pediatrics and Anesthesiology. Neighborhood locations are also available for GP's. Contact Maricopa County Medical Society, 2025 North Central Avenue, Phoenix, AL 8-6901, advising medical training, military and family status, age, health, etc., and enclose small photograph.

PHOENIX — State Department of Health-Child Development Center. Opportunity for doctor of medicine (Pd) with three years' experience. Male or female. Monthly salary $690 — full time. Operation includes (a) a doctor of medicine (Pd); (b) two or three psychologists on a consultant basis; (c) a psychiatric social worker; (d) a teacher specializing in child develop-

ment; and (e) clerical people as required. Scope: Mentally retarded or emotional problems of pre-school children. Contact Mr. Thomas Golden, Arizona Merit System, 11 North 17th Avenue, Phoenix (AL 3-3189).

ST. JOHNS — Seriously needs a doctor of medicine, preferably a GP, in this east-central Arizona community. Population is approximately 1,500 with several other small towns in the general area. About 20 miles from New Mexico in the beautiful rim country of Arizona. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Arizona.

TOLLESON — In need of GP. Serves a trading population of from 12,000 to 15,000. Ten miles west of Phoenix, with elementary and high schools, churches of all denominations. Complete office and equipment for GP is available on reasonable term lease or purchase. Contact Mr. F. E. Babcock, President, Chamber of Commerce, 9112 West Van Buren Street, Tolleson, Arizona.

TUCSON — The VA Hospital is in urgent need of a General and Thoracic Surgeon. They prefer someonc who is Board certified, but would take someone who has had special training as they have the local men in this field available for consultation service. State license is necessary (but not necessarily an Arizona license). Contact S. Netzer, M.D., Director, Professional Service, VA Hospital, Tucson, Arizona.

WILLCOX — Population approximately 2,000 — and including surrounding area, the population is estimated at 4,000. Immediately in need of a general practitioner and surgeon; must have state license or be eligible for same. Opening for an associate. Office available approximately three (3) blocks from the twenty-bed hospital in community. Tucson, Arizona within a locality of 85 miles. Contact Sotero Antillon, M.D., P.O. Box 867, Willcox, Arizona.

* * * * *

FOR INFORMATION ON OPPORTUNITIES IN THE FIELD OF INDUSTRIAL MEDICINE, CONTACT:

Harold J. Mills, M.D., Phelps Dodge Hospital, Ajo, Arizona

Carl H. Gans, M.D., Phelps Dodge Hospital, Morenci, Arizona

Ira E. Harris, M.D., Miami Inspiration Hospital, Miami, Arizona

Charles B. Huestis, M.D., Box 928, Hayden, Arizona

Elvie B. Jolley, M.D., Copper Queen Hospital, Bisbec, Arizona

H. W. Finke, M.D., Magma Copper Company Hospital, Superior, Arizona

John Edmonds, M.D., Kennecott Copper Corporation Hospital, Ray, Arizona

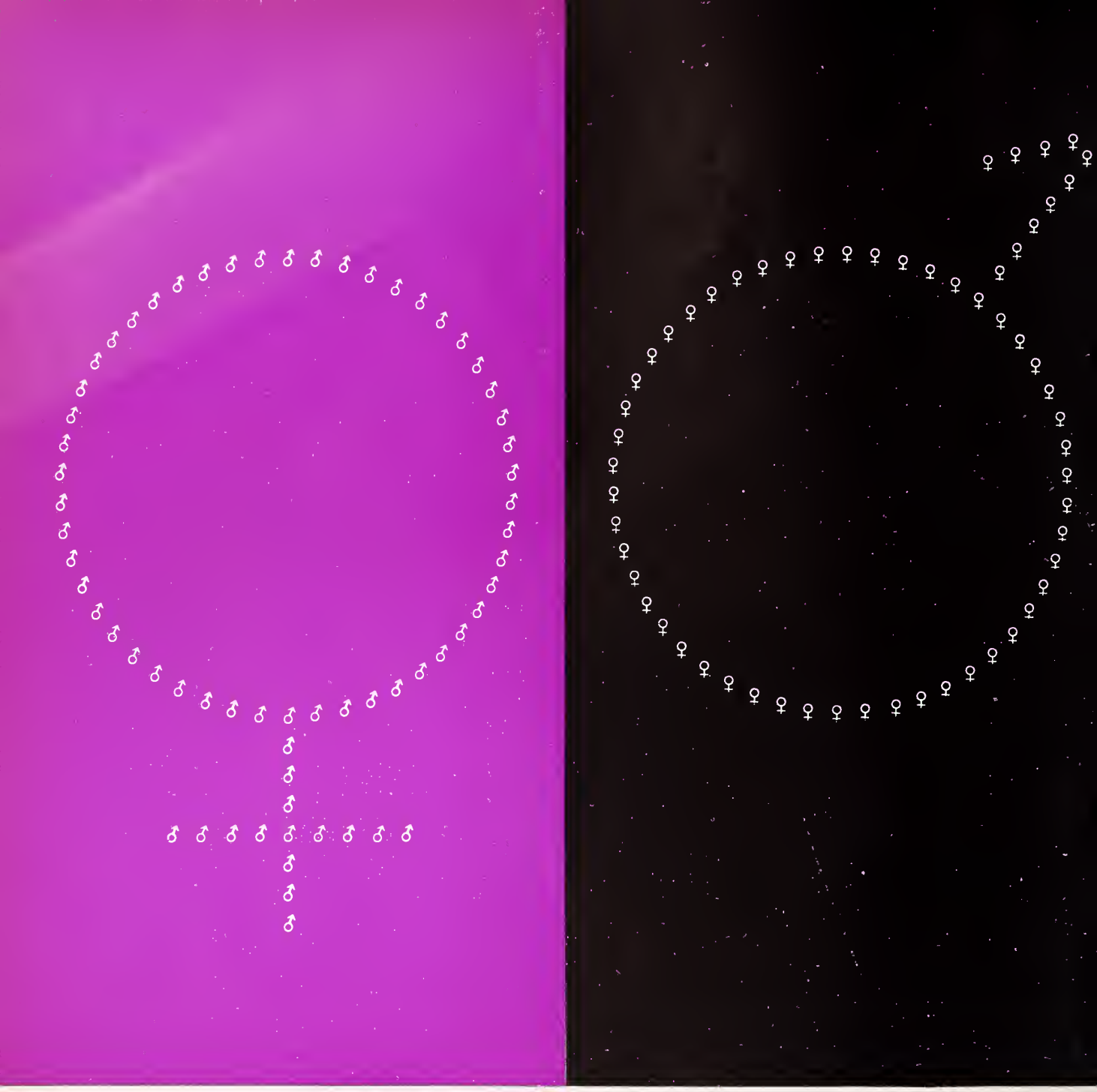
Francis M. Findlay, M.D., San Manuel Hospital, San Manuel, Arizona

JAMES CAREY
PRESIDENT, INTERNATIONAL UNION OF ELECTRICAL RADIO AND MACHINE WORKERS

"Investigation shows that the majority of our retired elder citizens depend almost entirely upon federal old age insurance benefits for subsistence. While people seek desperately to put a few dollars aside for thier old age, only one person in six who retires at age 65 has as much as $5,000 in savings," Mr. Carey said.

"Costs of voluntary health insurance continues to rise at the rate of 10 per cent a year. It now costs about $15 a month for the avcrage retiree to cover himself and his wife for Blue Cross and Blue Shield. For most retirees who depend on old age benefits, this is an impossible price tag," he stated.

Hearings on Health Needs of the Aged (April 4-6, 1960)



GONORRHEA *IS ON THE MARCH AGAIN...*

a new timetable for recovery:

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DOSAGE: Gonorrhea in the male – Six capsules of TETREX in 3 divided doses, in one day.

* Marmell, M., and Prigot, A.: Tetracycline phosphate complex in the treatment of acute gonococcal urethritis in men. Antibiotic Med. & Clin. Ther. 6:108 (Feb.) 1959.

BRISTOL

BRISTOL LABORATORIES,
SYRACUSE, NEW YORK

Medical Society of the United States and Mexico

PROGRESS NOTES

NOVEMBER MEETING

Word from Dr. Ignacio Chavez, our President-elect, in Guadalajara, indicates that plans are acquiring not only body and shape but momentum as well, for our next meeting in November. You are reminded, again, that on November 8, 9 & 10 we will be in Guadalajara; the 11 & 12 will be spent in Mazatlan. Committees have already been organized and we presume that, within the next few weeks, a preliminary announcement will be forthcoming from Mexico.

A travel agent is already at work in Tucson in connection with air travel, particularly looking into the possibility of a charter.

Dr. Chavez informs us that if there is a large enough contingent going by rail from Nogales, a special train can be set up for our convention. The same holds true for the trip between Guadalajara and Mazatlan.

Announcement of the meeting will appear in a large number of general national and regional journals from now on.

Our secretary informs us that he has received approximately eighty applications for membership from various parts of the United States.

For those of you not acquainted with the current slate of officers, this is reproduced below:

President, Dr. W. R. Manning, Tucson, Ariz., U.S.A.

Vice President, Dr. Juan E. Fonseca, Tucson, Ariz., U.S.A.

Executive Secretary, Byron Browder, Tucson, Ariz., U.S.A.

Secretario Ejectivo, Alfredo E. Patron, Mazatlan, Sinaloa, Mex.

Tesorero, Dr. E. Gonzalez Murguia, Guadalajara, Jal., Mex.

Presidente Electo, Dr. Ignacio Chavez, Guadalajara, Jal., Mex.

Secretary, Dr. M. A. Carreras, Tucson, Ariz., U.S.A.

Secretario, Dr. E. Contreras Reyna, Guadalajara, Jal., Mex.

Treasurer, Dr. Robert E. Hastings, Tucson, Ariz., U.S.A.

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They All Like the Budget Plan For Health

Today, it doesn't matter whether a man makes $2,000 or $20,000; he still buys on credit and likes the monthly payment method. However, that means that many of your patients whom you might think have the ready money for surgery, maternity care or dental work really have this money obligated for the future. But if you offer them the Budget Plan for Health, you'll find they can afford it and it will insure you of getting your money quickly. You'll find your patients will "go for" easy monthly payments at low bank rate interest. It allows them to have your services without sacrificing vacations, savings or hurting their budget. You'll also find that the Budget Plan for health is a good practice builder because a paid-up patient is a satisfied patient. He'll build good-will for you. Remember, Doctor, you can't carry an account on your books for the low 10% service charge you pay. In this day and age of monthly payments, rich man or poor man, your patients will expect and appreciate your offering them an easy way to pay. Make it a habit to suggest the Budget Plan for Health to *all* your patients regardless of their financial circumstances.

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Editorial

HIGH FEES FROM DOCTORS

ARIZONA DAILY SUN

Friday, April 8, 1960

An insurance expert at the University of Arizona says that some doctors are charging exorbitant fees when they learn that their patients are covered by health insurance.

This isn't true of all doctors, by a long shot, but it's true of many.

Doctors as a group (and there are notable exceptions) are singularly lacking in public relations savvy. They create most of their own problems.

Their general lack of understanding of the public attitude toward them is apt to result in due time in some such setup as that in England — "socialized medicine."

If they want to keep free of federal controls it is going to be up to the doctors themselves to convince the public that everybody is better off without Uncle Sam sticking his finger in the pie.

But if doctors' fees continue to increase beyond a reasonable point, and if so many doctors continue their arrogant indifference to public opinion, they'll find to their sorrow that the public is not with them when the real fight over "socialized medicine" opens.

ARE FEES THE QUESTION?

The above editorial form the *Arizona Daily Sun* deserves thought and should not be ignored. By the excessive charges of a few, the entire medical profession is condemned, though many fees charged today are identical to those of a

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientifie articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

half century ago.

Medical expenses have not climbed as have other expenses. Pneumonia 25 years ago was treated with antisera, at great risk and a cost of $200 to $400, with a prolonged period of hospitalization. Today antibiotics at 50c per tablet are used, but $15 to $20 worth will suffice. The doctor's bill is for five visits at a cost of $25 to $35, instead of 25 visits at a cost of $100. Greater charges per visit, but a much lesser charge per illness. Which is the cheaper and better treatment? The patient is paying to treat something he did not desire to have. Any price is too much!

A minimum of 10%, with an average of 15-20%, of medical accounts are uncollectible. What other business could survive such losses? The acceptance of the emergency case without question demands these losses of the doctor. This is in addition to the care of the indigent. Free clinics, county hospital service, etc., averaged a contribution of greater than $6000 per year, per physician, in Philadelphia this past year. This must be paid by taxes if medicine is socialized.

However, while this defense is true for the accusations made against us, the medical profession is guilty of wanting to accept the status quo and to resist any alteration to the medical-economic realm.

We cannot be against everything. What do we favor? Should not positive steps be taken to aid the people in their selection of good insurance? Should not the AMA investigate all health insurance policies and put its "Good Housekeeping" seal of approval on the satisfactory policies and denounce the chiseler? This alone could help to re-establish the confidence of the people in the medical profession. The doctor would not be considered to be at fault when the insurance policy does not pay or pays in an inadequate manner.

People are willing to pay for health insurance. They do not want to pay for an illness. Help them select good insurance. Teach them to know the adequate health insurance policy; encourage a deductible clause. This will give them protection at a price they can afford to pay.

DWN

THERE IS A SCIENCE OF PSYCHOTHERAPY

You hear a lot about the art of psychotherapy or the art of medicine in reference to the psychosomatic disorders. Let me submit for your consideration a few basic principles of the science of psychotherapy; skeletal foundations without which your efforts will be amorphous and amateur.

1) Your contract with the patient affords and invites absolute and positive honesty on his part. Your half of the bargain is the withholding of value judgements. You do not moralize. You do not threaten or encourage; you do not plead or exhort or criticize or praise.

Reality testing, the criterion of sanity, means literally what it says. In reality, as in science, there are only facts and they are interesting. They are never good or bad, right or wrong, mature or immature, selfish or generous, beautiful or ugly.

The most difficult and yet most essential realization is this: the idea of cause and effect is not in reality but is a construction of our mind, a primitive and fallacious oversimplification and projection.

When you project onto an event the cause-effect relationship, you secondarily introduce moral issues of blame or guilt, culpability or praiseworthiness. These issues are not realistic, not scientific.

In lieu of the (subjective) concept of cause and effect, we use the term synchroncity. (The rabbit died because it was a rabbit and because the wolf was a wolf and because they happened to be in the same place during (not at) the same time. The tubercle bacillus encountered the individual while it was virulent and he was vulnerable — and consumption developed in a set of changing circumstances, each item of which was synchronous with the others.)

2) In psychotherapy you do not make statements af "fact." You express interest and you ask questions. Your diagnosis is always open at the far end. Because there are so many variables within the individual and in the environment, because there are so many levels of past and current experience which are influencing the individual, you never come to a dogmatic and unjustifiable conclusion. (Below the functional disturbance is the psychoneurotic's rage; below the rage is the wish to love; below the wish to love is the unfulfilled need to have been beloved.)

3) You do not just ask questions and listen. It is true that ventilation, the fact of verbalizing,

helps patients to formulate and face their problems. Your more active task is the re-wording of the problems in non-neurotic terms. This is the re-education of the patient, not only by the example of your objective and realistic attitude, but by the feed-back of reason itself. (The patient demands: "I have to be sure, Doctor, do I or don't I love my husband?" And you reply: "Perhaps you do when he is cheerful and kind, and perhaps you don't when he is moody and fault-finding." And gradually you elicit a flexibility in the patient to correspond with the flux of reality. The patient asks: "Doctor, do you believe in God?" And you wonder aloud: does he mean the anthropomorphic God of some religious sects or the Higher Power of the scientist? Or isn't he ultimately asking about the efficacy of prayer? And you ask if there is anything culpably agnostic in the scientist's humility of not knowing?)

4) Constructive re-education requires familiarity with the mental mechanisms; repression, projection, conversion, reaction formation, etc. There are about fifteen, each overlapping with the others. Unconsciously employed at the intellectual level, these are mechanisms of self-deception. They are interposed between the mind and reality. The functional (physical) or emotional disturbance is synchronous with the distortion of reasoning. It is the habitual employment of these mechanisms that makes the neurotic seem complicated. He has complexes and is therefore complicated. He does not express his needs or his anger at their frustration by simple and direct means. This is the basis for the prejudice against the psychoneuroses. (What is the neurasthenic expressing in his fatigue? "I am without stimulus. I have nothing to look forward to." We could digress at book length at this point: Environment, cortex, mid-brain, pituitary, adrenal, energy, etc. Neurasthenia is not imaginary!)

5) Psychotherapy looks more to the future than to the past. Religious or ethical guilt accompanies what has occurred and awaits punishment and atonement. In psychitary, the concepts of guilt and anxiety refer to that which has *not* been expressed, the unrealized potential of the individual.

The issue, the crucial point, is whether the individual is willing to assume all (100%) of the responsibility for the role he will play in his life. Over and over again the patient will resist: "Doctor, I am ready to admit that it is partly my fault (a value term), but . . . ". The patient who persists in attributing even part of his difficulties to some one or something outside himself (his childhood, his marriage, his job) can never attain the dignity and confidence of self-determination.

6) Psychotherapy asks of the patient to establish or re-establish his own ego-boundaries and then to participate in the event of creation. Outside your office is the world of chaos. There is no cause or effect, there is no right or wrong; there is no label which can be assertively fixed in the flow of time. ("Doctor, am I neurotic?" Well, perhaps you *were* when you reacted to such and such a situation in this or that complicated way. But you were not neurotic when you reacted to another situation with simplicity and took all of the responsibility for your reaction.)

We ask not what a person has been and not what he is. We ask what he is becoming. The stick outside the door is just a stick. Depending on its "hospitality" and its appropriateness, one can elect to use it for a weapon or for a crutch or for a part of a building. If you intend to use it for building, then you are becoming a builder and it is becoming something more than a stick. Everything takes on its order and meaning (everything becomes) by the use to which you (and you alone) will put it. The term "will" in this context is absolutely free and the individual is absolutely responsible in its exercise.

W. B. McG.

RETROLENTAL FIBROPLASIA

A report recently received by the editor from the National Society for the Prevention of Blindness stresses the importance of low oxygen concentrations to premature infants to prevent retrolental fibroplasia. It is universally accepted now that excessive concentrations of oxygen stimulates the occurrence of retrolental fibroplasia in new-born infants especially prematures.

It would be wise to consider the following rules to reduce the incidence of this disease.

1) Administer oxygen only when there is respiratory distress.

2) Keep the oxygen concentration at 40% or less inside the incubator.

3) Discontinue the oxygen as soon as possible.

A.K.H.

In Memoriam

KRAMER MARTIN GILBERT, M.D.

1882-1960



Kramer M. Gilbert, M.D.

Dr. Kramer M. Gilbert of Chandler died in a Mesa Hospital March 6, 1960.

Born near Prairie City, Iowa, January 30, 1882, Dr. Gilbert graduated from the Drake University Medical School, Des Moines, in 1908. In June, 1909, he was married to Bessie E. Sanders of Carlisle, Iowa. Dr. Gilbert was licensed in Arizona in 1913. It is said that he was on his way to California when he stopped over in Chandler, liked the community, and stayed there.

Dr. Gilbert was a member of the Maricopa County Medical Society, the Arizona Medical Association and the American Medical Association. He was a past president of the Chandler Chamber of Commerce and first vice chancellor of the Knights of Pythias. He retired from active practice in 1957 and of late years found great interest in the growing of citrus fruit at Chandler Heights.

He is survived by his wife, Bessie: a son, Horace, of La Habra, California; a brother, and one grandchild.

RUSSELL JOHN CALLANDER, M.D.

Dr. Russell J. Callander, who praeticed medicine in Tucson 20 years before World War II, died September 11, 1959 at his home in Solana Beach, California.

Dr. Callander was born May 25, 1892, in Ontario, Canada. He received his B.S. degree from the University of Chicago and his M.D. degree from Rush Medical College in 1919. His internship was served at the Norweigan Deaconess Hospital and the Cook County Hospital, both in Chicago.

In 1920 Dr. Callander came to Tucson and was associated with the Tucson Clinic for many years, practicing in the field of internal medicine and the sub-specialty of gastroenterology. During this time he studied for a year in Vienna.

Dr. Callander joined the Navy Medical Corps in 1940. After the war he moved to Mountain Home, Tennessee, where he was on the staff of the Veterans Administration Hospital until 1958. He then moved to California.

His widow, Mrs. Clara Callander, resides at 417 Glenmont Drive, Solana Beach, California. There are two daughters, Nancy, of San Diego, and Barbara, of Oregon.

RESOLUTION
PIMA COUNTY MEDICAL SOCIETY

WHEREAS, by the death of Russell John Callander, M.D., the Pima County Medical Society has suffered the loss of one who was a member for thirty-seven years, and

WHEREAS, while Doctor Callander has not practiced in this city during recent years, he is remembered with affection and esteem by those who knew him and were his colleagues in medicine, be it THEREFORE

RESOLVED: That the Pima County Medical Society inscribe these sentiments in its permanent records, and convey to his family an expression of sorrow and sympathy.

GORDON JUDSON McCURDY, M.D.

Gordon Judson McCurdy, M.D., passed away on Sunday evening, February 14, 1960, in Good Samaritan Hospital, Phoenix, Arizona. He was born in Moulmein, Burma on October 30, 1902. His father was a missionary in Burma. When he was quite young the family moved to Nova Scotia. He received his Doctor of Medicine degree at the University of Michigan Medical School at Ann Arbor, Michigan, on September 20, 1927. His residency was served at the Dr. Ferris Clinic in Michigan. He practiced as a private physican in the specialty of E.N.T. in Providence, Rhode Island for seventeen years. He then moved to Miami, Florida. In January 1954 he received his certificate to practice in Arizona through reciprocity with the state of Florida. He was licensed in the states of Michigan, Rhode Island, California, Florida, and Arizona. His office was in the Professional Building, Phoenix. He was a member of the Maricopa County Medical Society, the American Medical Association, the American Laryngo-Rhino-Otological Society of the United States, which is one of the foremost societies in this specialty.

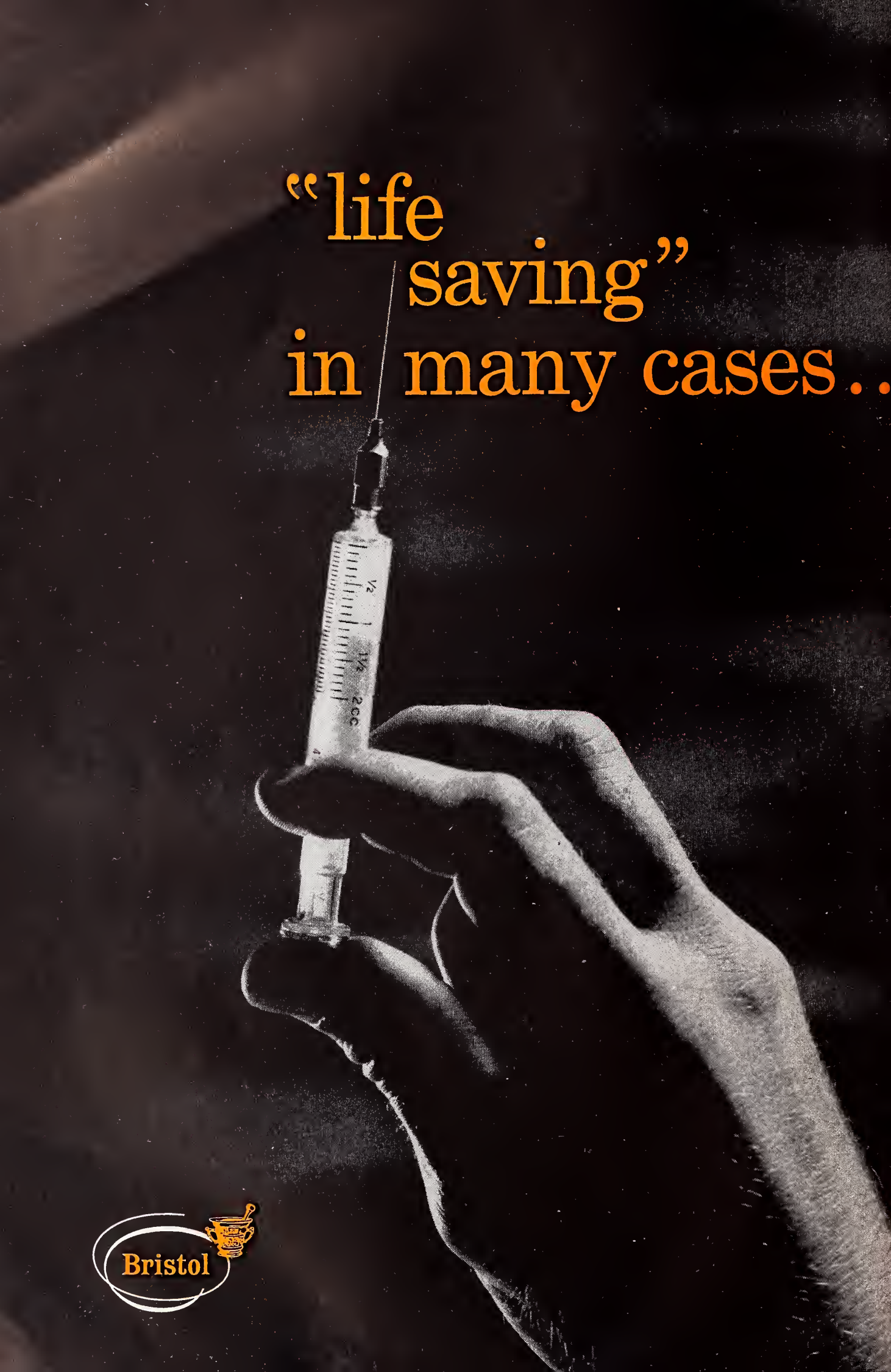
He had published papers on treatment of mastoid conditions. Fenestration for deafness was one of his accomplishments. He maintained an office at Prescott, where he was with patients two days of the week, and in Phoenix for the remainder of the week from 1955 until his death.

He had required insulin for diabetes for a number of years. The final episode was initiated by what is apparently a cerebral vascular accident and coma which may have been complicated by the diabetic condition.

He is survived by his wife, Nan, and two children by his first wife who are now of college age.

Dr. McCurdy was rather reserved, but a friendly individual whose patients trusted and appreciated him. He had a serious approach to the practice of medicine which tended to inspire his patients with confidence.

Howell Randolph, M.D.


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BRISTOL LABORATORIES, SYRACUSE, NEW YORK

Topics of Current Medical Interest

RABIES FROM BATS

Hugh H. Smith, M.D., M.P.H.

For many years it has been known that rabies is transmitted by vampire bats in South America and Mexico. Asymptomatic infection of the salivary glands of vampire bats has been demonstrated for periods of as long as five months thus providing a reservoir for the maintenance of the virus in nature in the areas in which the vampire bat exists.

No vampire bats are known to be indigenous to the United States, although colonies of them have been discovered in Mexico about two hundred miles south of the border.

In 1953, rabies virus was isolated from an insectivorous bat killed while attacking a woman in Florida and during the following year from a similar bat under the same circumstances in Pennsylvania. Subsequently, rabies has been reported in insectivorous bats in eight states(1).

In Arizona, rabies was diagnosed in bats for the first time in 1957. A full report on the five known cases of bat rabies up to 1958 were published in Arizona Medicine(2). There were other reported instances of bats acting strangely in several parts of the state.

Quite recently, comes the first report of a fatal case of rabies that definitely incriminates a species of insectivorous bat as a source of the disease for man(3). A California woman picked up a bat lying on the ground near her home in Butte County. She was bitten on the middle finger of her left hand. She telephoned a veterinarian about treating the bat for an apparenly broken wing. The veterinary physician suspected rabies in the bat and suggested that it be taken to the Health Department. The brain of the bat was examined and found positive for Negri bodies. Rabies virus was subsequently isolated in mice from the bat's brain.

In spite of vigorous anti-rabies treatment, the woman came down with rabies on the 55th day following the bat bite and died eleven days after the onset of symptoms.

Just what role bats may play in the epidemiology of rabies is not yet known. It does appear that infected bats do pose a threat to man and other animals. A review of reports of human exposures in this country and Canada indicates at least seventy-five persons have been bitten by bats(4). In the majority of the cases the persons bitten appear to have exposed themselves by handling an obviously ill bat or by one whose behavior was definitely abnormal. Unprovoked attacks by bats are unusual.

During the period 1951-58, a total of 92 cases of rabies in humans were reported in the United States, of which only three were associated with exposure to bats. This low incidence indicates that the hazard of direct transmission of rabies from bat to man is minor compared with that of transmission from dogs and other domestic animals. There is a danger, however, and health authorities are suggesting that all bites of persons by bats be considered as possible exposures to rabies and treated accordingly. Every effort too should be made to warn people, especially children, not to handle bats that appear ill or those acting in a strange manner.

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GASTRIC LAVAGE VS. EMESIS IN THE TREATMENT OF POISONING

IN the first-aid or medical treatment of certain ingested poisons one of the chief measures involves the prevention of further absorption of the poison from the digestive tract. This may be achieved by two possible means, induced emesis or gastric lavage. In the case of first-aid treatment, the only course available to the layman for emptying the stomach is by means of induced vomiting. Included in the first-aid measures for poisoning as recommended by the Committee on Toxicology of the American Medical Association is the initial administration of large volumes of milk or water (1 to 2 cups for children ages 1 to 5; up to 1 quart for patients over 5 years of age) and the induction of vomiting by placing the blunt end of a spoon or finger at the back of the patient's throat or by giving 2 tablespoons of salt in a glass of warm water(1).

On the other hand, in the medical treatment of ingested poisons both induced emesis and gastric lavage are measures which may be employed by the physician. The technic to be employed for emptying the stomach in any given case of poisoning usually depends on factors such as the experience and preference of the physician, the nature of the ingested substance, and the availability of equipment. Little research has been done on the comparative efficiency of the two technics for the removal of swallowed poisons from the stomach and opinions differ as to which method is the more effective. For example, Goodman and Gilman(2) state, "The clinical stomach tube has relegated emetics to a deserved obsolescence." In contrast, an editorial in the Journal of the American Medical Association(3) cited the systematic investigation of Harstad and coworkers which challenged the efficacy of gastric lavage for removing swallowed poisons and concluded that it is generally inefficient and often valueless in cases of acute poisoning. These investigators further concluded that gastric lavage promotes passage of a poison into the intestine and suggested that the efficiency of lavage may be increased by the repeated use of relatively small volumes of fluid. They pointed out that lavage is usually ineffective if the poison had been swallowed for 4 hours or longer; the bulk of the poison leaves the stomach rapidly, especially in suicide victims, who often take it on an empty stomach; and in conscious patients evacuation by emesis with the aid of apormorphine is superior to lavage.

Recently, Arnold and associates(4) evaluated the efficacy of lavage and induced emesis in the treatment of experimental sodium salicylate poisoning in dogs. Essentially, their procedure consisted of administering sodium salicylate to dogs and determining the amount of drug that could be recovered from the digestive tract by induced emesis or gastric lavage. Although the data obtained were not sataistically analyzed, these investigators concluded that: (a) lavage within 15 minutes of salicylate administration is no more effective than vomiting induced within 30 minutes of poisoning; (b) 1 hour after administration of sodium salicylate, lavage is far less effective than induced emesis; and (c) spontaneous emesis is not as effective as induced emesis. One and one-half hours after salicylate administration, induced emesis is still somewhat effective and thus appears to be the preferred procedure for removing salicylate from the stomach. Undoubtedly, one of the most significant features of the experiment reported by Arnold and coworkers is the observation that neither lavage nor emesis, under the most optimal conditions, are consistent in effectiveness. Consequently, they suggested that all patients, after either form of treatment, should be carefully observed for signs of further drug absorption.

Another obvious disadvantage in the use of gastric lavage is the fact that poisonous material of large particle size, such as enteric coated tablets and mothballs, cannot be aspirated through a lavage tube. Despite the apparent advantages of induced emesis over gastric lavage in the treatment of ingested poisons, the procedure is not entirely adequate or without danger. For example, the marked increase in blood pressure during emesis may result in cardiovascular accidents(4, 5). The marked increase in the intra-abdominal pressure during emesis may be dangerous in pregnancy, hernias, and advanced peptic ulcers or other gastrointestinal erosions(5). Finally, the fall in blood pressure after emesis may be dangerous in young children and debilitated persons(5). Furthermore, it is well recognized that in cases of central nervous depression emetic agents not only may fail to exert their therapeutic effect but may

add to the depression. Apomorphine and, to a lesser extent, ipecac are capable of causing further depression.(4) Also, Boyd(5) has pointed out that ipecac is irritating to mucosal surfaces and may produce gastroenteritis if it is not ejected from the stomach. More recently, Allport(6) reported a case in which a 2½-year-old boy was given 15 ml of ipecac fluidextract over a 30-minute interval following the accidental ingestion of approximately 6 chlorpheniramine (Chlor-Trimeton) maleate tablets 4 mg. each. The boy then vomited violently for the next 8 hours. He continued to vomit intermittently for 2½ days and developed a tarry diarrhea which was benzidine positive. The author pointed out that emetine is apparently the alkaloid primarily responsible for the toxic manifestations of ipecac and for the similarity in the toxicity of ipecac fluidextract and ipecac syrup. He emphasized the difference between the two preparations; the fluidextract is approximately 14 times more potent than the syrup. Although the use of ipecac syrup as a possible first-aid measure for the treatment of poisoning has been suggested, the Arizona Poisoning Control Information Center does not condone the lay use of ipecac preparations for this purpose because of their potential toxicity.

Because of the paucity of adequate experimental and clinical observations and in view of the shortcomings inherent in both gastric lavage and induced emesis for the purpose of removing swallowed poisons from the stomach, the Arizona Poisoning Control Information Center is unable to recommend one method in preference to the other. The choice of procedure for preventing further gastrointestinal absorption in any particular case of poisoning must necessarily depend on the condition and health of the patient, the nature and relative toxicity of the noxious substance, and the experience and preference of the attending physician. After evacuation of the stomach by either method the patient should be carefully observed for signs of additional drug absorption and treated accordingly. In general, when the patient is comatose or if the poison is a petroleum distillate or corrosive, evacuation of the stomach by either gastric lavage or induced emesis should be avoided. For poisoning cases in which these two procedures are contraindicated consideration should be given to the possible use of dilution, neutralization, or catharsis.

STATISTICS OF 101 POISONING CASES IN ARIZONA DURING FEBRUARY 1960

AGE:

71.2% involved under 5 year age group	(72)
1.0% involved 6 to 15 year age group	(1)
12.9% involved 16 to 30 year age group	(13)
7.0% involved 31 to 45 year age group	(8)
7.9% involved over 45 year age group	(7)

NATURE OF INCIDENT:

80.2% accidental	(81)
19.8% intentional	(20)

TIME OF DAY:

44.6% occurred between 6 a.m. and noon	(45)
23.8% occurred between noon and 6 p.m.	(24)
14.8% occurred between 6 p.m. & midnight	(15)
1.0% occurred between midnight & 6 a.m.	(1)
15.8% were not reported	(16)

OUTCOME:

99.0% recovery	(100)
1.0% fatal (aspiring poisoning)	(1)

CAUSATIVE AGENTS:

Internal Medicines	**Number**	**Percent**
Aspirin	35	33.3
Other Analgesics	7	6.7
Barbiturates	13	12.4
Antihistamines	2	1.9
Laxatives	2	1.9
Cough Medicine	0	0.0
Tranquilizers	4	3.8
Others	17	16.2
Subtotal	80	76.2
External Medicines		
Liniment	1	0.9
Antiseptics	0	0.0
Others	0	0.0
Subtotal	1	0.9
Household Preparations		
Soaps, Detergents, etc.	0	0.0
Disinfectants	0	0.0
Bleach	4	3.8
Lye, corrosives, drain cleaners	0	0.0
Furniture and floor polish	0	0.0
Subtotal	4	3.8
Petroleum Distillates		
Kerosene	3	2.85
Gasoline	0	0.0
Others (lighter fluid)	3	2.85
Subtotal	6	5.70
Cosmetics	2	1.9
Pesticides		
Insecticides	0	0.0
Rodenticides	0	0.0
Others	0	0.0
Subtotal	0	0.0
Paints, Varnishes, Solvents, etc.	4	3.8
Plants	0	0.0
Miscellaneous	5	4.8
Unspecified	3	2.9
TOTAL	105*	100.0

*The total number of causative agents exceed the actual number of poisoning cases since in certain individual poisoning incidents more than one agent was involved.

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SIXTH ANNUAL CONFERENCE OF MENTAL HEALTH REPRESENTATIVES OF STATE MEDICAL ASSOCIATIONS

The above titled meeting, sponsored by the Council on Mental Health of the American Medical Association, was held in Chicago, Illinois November 20-21, 1959. The general theme of the program was "Organized Medicine in its Relationship to the Hospitalized Psychiatric Patient." Plenary sessions began and ended the conference; otherwise, the participants were divided into six groups where various subtopics were explored in a seminar fashion.

The eclectic nature of these conferences is well documented by the fact that on one occasion Marion Kenworthy, M.D., then president of the American Psychoanalyitc Association, and Jonas Salk, M.D., of vaccine fame, both participated in one seminar meeting.

The cost of mental illness is staggering. Although half of all hospital beds are occupied by psychiatric patients, only seventeen per cent of hospital personnel work in mental hospitals. Improving the lot of state mental hospitals sufficiently to but barely meet the standards set up by the American Psychiatric Association would probably more than double the present cost of patient care. It appears that the A.M.A. has been lax in its public education measures as concerns the mentally ill; the result being that, although "Cadillac" medical care is demanded for the indigent, physically ill, no such thought or consideration is afforded the mentally ill.

Full utilization of present-day knowledge in the care and treatment of psychiatric illnesses necessitates closer communication and collaboration between the state mental hospital, the private mental hospital, the general hospital, and the psychiatric out-patient clinic. To this end, it is generally agreed that the addition of more hospital beds to our already too big state mental hospitals should be discontinued. The need is for more facilities for the intensive care and treatment of the psychiatric patient and this could best be accomplished, extramurally, by the growth and development of mental health clinics and, intramurally, by the organization and development of psychiatric units in general hospitals as well as by the continuance of the private psychiatric hospital. Psychiatric units in general hospitals, as well as private psychiatric hospitals, should be integral parts of the communities which they serve. This has not been true in the past, but progress is being made in making these units and the hospitals bed partners of organized medicine as a whole.

Private psychiatric hospitals in the United States number 296. This represents 2% of psychiatric beds in the United States. These private hospitals admit 76,000 patients annually, 46,000 of which are first admissions. State hospitals admit 188,000 patients, approximately 120,000 of which are first admissions. These significant figures reflect the importance of early and vigorous psychiatric treatment, thereby restoring many citizens to the community as productive members who might otherwise have been lost to society. Organized medicine should be, and is able to, look to the private psychiatric hospital for fruitful work in the fields of psychiatric research and education. The latter directed both to the public at large and to organized medicine. Furthermore, psychiatric emergency service furnished by the private hospital is generally unavailable from other sources within the community.

Conspicuous by its absence is the psychiatric unit in the general hospital. In the *Digest of Official Acts of the A.M.A.* 1846-1958 (p. 498) is a significant resolution, "Resolved: That the A.M.A. representatives on the Joint Commission (on the accreditation of hospitals) call to the attention of the Joint Commission that the House of Delegates recommend that general hospitals, wherever feasible, be encouraged to permit the hospitalization of suitable psychiatric patients."

It is the consensus of opinion at the present time that psychiatric units in general hospitals should enjoy the same degree of individuality as do the departments of medicine, surgery, or obstetrics. The units should consist of not more than twenty to thirty beds, coming to approximately 10% of the total community hosptial bed capacity. It is known that the average hospital stay in such a psychiatric unit will vary from 7.1 to 60 days.

Statistics are becoming available which show that when private insurance carriers add mental disease coverage to their sickness benefits they can expect that claims for mental disease will amount to approximately 4% of paid benefits.

The general hospital psychiatric unit offers golden opportunities to improve communication between the psychiatrist and his general medical colleague. Interns and student nurses are afforded exposure to patients with psychiatric illnesses within the framework of general medicine so that any negative stigmata attached to mental disease can be modified in the minds of young people within the field of medicine and this, in turn, can eventually lead to a healthier attitude on the part of the public. Furthermore, the hospital with a psychiatric unit becomes a better hospital in every aspect of its functioning, just as a medical service becomes a better one because of the excellence of its department of roentgenology, so too a surgical department can be a better one when it has available to it an immediate and accessible psychiatric consultation. Furthermore, this rubbing of shoulders with general medicine encourages the psychiatrist to remain a doctor of medicine in fact as well as in name.

From the in-patient psychiatric unit it is but a simple and logical step to the out-patient psychiatric clinic. Such clinics, either functioning within the community but as independent entities, or as a part of general out-patient clinics, have become loci of emotional first-aid, serving both the discharged psychiatric patient and as diagnostic and treatment centers. In those areas where psychiatric help is but limitedly available, the out-patient clinic can serve as a tool through which the consultant's time can be used most effectively to meet the community's needs.

Psychiatric rehabilitation has as its goal the restoration to useful activity of individuals who have been victims of psychic trauma sufficient to produce emotional disability. Such rehabilitation would include restoration of the individual to his community, his work, his associates, and his family. Steps to accomplish this goal include the night hospital, the day hospital, the sheltered workshop, the halfway house, family care, ex-patient group meetings, and after-care out-patient clinics. Such goals can be reached if there is sufficient collaboration between available social agencies, psychiatrists, general practitioners, religious and social leaders.

The medical-legal aspects of commitment laws in several states were discussed at length. Although the constitutionality of certain provisions of the Uniform Mental Health Act has been questioned, this act still serves a most useful purpose when it forms the basis upon which is built a more suitable and uniform mental health law. Laws so structured discourage the utilization of jails and policemen in the forcible hospitalization of mentally ill patients and substitute therefor a medical procedure thereby maintaining insofar as is possible the dignity and rights of the individual patient. It was agreed that a state mental health act should contain a provision for the voluntary admission of a patient to the state hospital, provisions for emergency admission to a state hospital, and should carefully distinguish between those proceedings leading to enforced hospitalization and those proceedings having to do with the declaration of the individual patient's mental competence or absence thereof. Automatic declaration of incompetency based upon hospital commitment is to be condemned.

Since the Sixth Annual Conference of Mental Health Representatives of State Medical Associations represents the most informed opinion available at this time concerning matters of mental health, it is interesting to note how mental health programs in Arizona measure up to those of the remaining United States.

Our state hospital, under Doctor Samuel Wick's direction, has certainly attained and maintained a close liaison with the community generally and the medical profession specifically. Open House days at the hospital have been held to permit the citizens to observe at first hand what is being done at the state hospital level in Arizona to diagnose and treat mentally ill patients. For the past several years, one meeting of the Maricopa County Medical Society has been held annually at the state hospital. Very recently a two-day meeting was held at the state

hospital for general practitioners. This psychiatric seminar proved a most effective method for improving the relationship between the mentally ill patient and the physician who first sees the patient, namely the family doctor. Improving this relationship can lead to more effective therapeutics and disease prevention in the field of mental health.

On the debit side of the state hospital ledger, is the fact that the institution is overcrowded and understaffed. Salaries are miserably low as witness that of the superintendent, whose salary is the lowest among superintendents of several of the western states. The hospital's being an integral part of the community may have come about by way of fortuitous circumstances rather than by farsighted planning in that the hospital could not help but to have been incorporated into the rapidly expanding city limits.

There is but one psychiatric hospital in the entire state of Arizona and it manifests topnotch thinking and orientation in such hospitals today. Carefully controlled and supervised research programs have been carried out. The hospital serves as a focal point for dissemination of psychiatric knowledge, both to the specialist and to the general practitioner. Prominent men in the field of psychiatry are brought in by the hospital at periodic intervals and both the specialists in psychiatry and men in other fields of medicine attend these lectures and demonstrations. This hospital is also the site of a ten-week sustained and intensive psychiatric seminar sponsored by the Western Interstate Commission for Higher Education for general practitioners and specialists in fields other than psychiatric medicine. The faculty for this seminar is made up of active staff members of the hospital. The hospital provides emergency service and through its active staff supplies speakers who appear before lay groups. The close communication which exists between the hospital staff members and the medical profession at large is well documented by the fact that the hospital staff is open to members in good standing of the local and state medical societies. The versatility of the hospital's therapeutic armamentarium is evidenced by the availability therein of all forms of somatic therapies as well as ancillary services such as occupational therapy, recreational therapy, and social services. At times the closeness of the hospital to the community has been uncomfortable, particularly when it has been necessary to change zoning restrictions so that hospital resources might be expanded; but just as that closeness brought opposition, so too it brought the support necessary for the zoning changes.

Psychiatric services in general hospitals in Arizona are essentially nil. Although several hospitals in the state identify themselves as accepting psychiatric patients, personal communications indicate that they do so only under the most stringent rules and regulations; these have become even more restraining during recent times when unfortunate accidents have led to adverse court decisions directed against the hospitals in relationship to psychiatric patients. Nor does the Arizona Hospital Service, the so-called "doctors' plan for health insurance," cover emotional illness.

Arizona is fortunate in having qualitatively excellent, though quantitatively severely inadequate, out-patient psychiatric facilities for children. The only out-patient clinic for adults is sponsored by the state hospital and, again, is totally inadequate to meet the present need.

Federally sponsored vocational rehabilitation services are available within the state. In addition, rehabilitation services for epileptics have recently become available and it is hoped that this program will eventually become self-supporting and may even serve as a sponsor for similar such centers in other counties of this state. Day hospitals, night hospitals, and halfway houses, which play such an important role in rehabilitation are not available in Arizona.

Two years ago, with the backing of the state medical society and with the hard work and support of lay groups, a mental health act was put through the legislature, patterned largely after the Uniform Mental Health Code.

So it would seem that Arizona measures up quite well in many aspects to the nation as a whole. The most serious deficits exist in the areas of out-patient clinic facilities, in-patient child care centers, and the day-night hospitals.

But rather than looking to further attainments, let us maintain what we have by directing our attention to the salary scale at the state hospital which could cost us many difficult-to-replace, trained personnel. Also to insure our not being looked upon as talking out of both sides of our mouths at the same time, let's see to it that the Arizona Hospital Service recognizes mental illness as a medical disease worthy of being covered by Blue Cross and Blue Shield hospital plans.

T. Richard Gregory, M.D.

BLUE SHIELD

Like a somewhat wayward child, Blue Shield often plays the role of favorite whipping boy for the doctors who created it. Wherever several physicians are gathered together — in staff room, committee meeting or on the second tee — someone is certain to take out after the local Blue Shield Plan.

When the definitive history of prepayment is written, perhaps one may trace a falling rate of divorce among American physicians who have worked out so many of their frustrations, not on their wives, but on their Blue Shield Plans.

Some Blue Shield administrators confess to a wry satisfaction in all this — recognizing that a parent is always fussier with his own offspring than with a child for whom he has no emotional affinity.

Blue Shield is a vast community umbrella designed to ward off the rain of medical adversity which falleth alike upon the just and the unjust. It serves the need of the average man as best it may, but it sometimes falls a little short of the special needs or wishes of the individual patient and his doctor.

In these perilous times, when the Forand philosophy seems to have so thoroughly infected the politicians of both parties, American medicine has reasons more apparent than ever before to honor those medical pioneers who built Blue Shield, and to support the civic and professional leaders who today are working so hard to make Blue Shield an ever more effective instrument.

None can doubt that without the reality of a strong and growing Blue Shield movement during the 1950's, America would long since have had universal compulsory health insurance. And few today would dispute the proposition that if American medicine escapes the thralldom of state medicine during the 60's, it will have the voluntary prepayment movement — chiefly Blue Shield — to thank for its good fortune.

Let's all keep a closer eye on Blue Shield — not merely to discern the motes in its eye — but to encourage it to do the best job it can do for us and for the American people.

BLUE SHIELD ANNUAL MEETING

At the annual meeting of Arizona Blue Shield, William Payne, M.D., Tempe, was elected president of the organization, succeeding Arthur G. Stevenson, M.D., Phoenix. Other elected officials of the non-profit medical-surgical plan were Woodson C. Young, M.D., Phoenix, president elect; Ian M. Chesser, M.D., Tucson, vice president; Carl A. Holmes, M.D., Phoenix, secretary; and Robert Williams, vice president First National Bank, Phoenix, treasurer. Re-elected to the Blue Shield board of directors were Miguel A. Carreras, M.D., Tucson; Dr. Chesser; C. Thomas Read, M.D., Phoenix; and Mason Warren, secretary of the Maricopa County AFL-CIO; Williams was also elected to the board.

Elected to the professional committee were Charles VanEpps, M.D., Phoenix; Lindsay E. Beaton, M.D., Tucson; E. Henry Running, M.D., Phoenix; and Charles E. Henderson, M.D., Phoenix. Dr. Beaton was also elected president of the Arizona Medical Association, succeeding D. W. Melick, M.D., Phoenix.

Annual reports were given by Dr. Stevenson, out-going president, and L. Donald Lau, executive director of the plan. Dr. Stevenson emphasized the need for positive action in combatting the Forand Bill and similar pieces of proposed legislation. Other high points of their reports were the following: Of the $3,198,000 taken in as income during 1959 by Blue Shield, $2,765,000 of it went to doctors in payment for care of Blue Shield subscribers. Operating expenses for the plan reached an all-time low of 9.9%. Membership in Arizona for the first time went over the 200,000 mark in Blue Shield, reaching 201,596 people.

The annual meeting of the Blue Cross board of directors, the hospitalization portion of the program was held May 22, in Phoenix.

BOARD OF MEDICAL EXAMINERS

The Board of Medical Examiners of the State of Arizona at a regular meeting held Saturday, April 16, 1960, issued certificates to practice medicine and surgery in this state to the following doctors of medicine:

Brazie, Robert Willard, (GP), 218 Stetson Drive, Scottsdale, Arizona.

Brown, Herbert C., (GP), 3138 East McDowell Road, Phoenix, Arizona.

Clothier, Barry Allen, (GP), Phelps Dodge Corp., Hospital Dept., Bisbee, Arizona.

Cooper, Clark Neil, (GS), 927 West 4th Street, Waterloo, Iowa.

Cutler, Clair Riley, (GP), Maricopa County Hospital, Phoenix, Arizona.

Duncan, Perry E., (Oph), Scottsdale Medical Building, Scottsdale, Ariz.

DYSON, James Everett, (Pd), 4025 East Colter Street, Phoenix, Arizona.

Farnsworth, Stanford Franklin, (PH), 116 South 12th Avenue, Phoenix, Arizona.

Enggas, John Thomas, (GP), Douglas Hospital, Douglas, Arizona.

Erd, Quentin Lane, (GP), 127 East Fifth Street, Benson, Arizona.

Estes, John Earle, Jr., (I), 461 West Catalina Drive, Phoenix, Arizona.

Hancock, Robert Edwin, (GS), 1004 West Palo Verde Drive, Phoenix, Arizona.

Henson, Rex Thomas, (S), P. O. Box 561, Mesa, Arizona.

Lahti, Carl Robert, (GP), 7725 North Fifth Ave., Phoenix, Arizona.

Lenzner, Jacob Samuel, (I), 14674 Ryan Street, Panorama City, California.

Linkner, Laurence M., (S), 966 Fisher Building, Detroit 2, Michigan.

Louis, Herbert Johnson, (Or), 1830 78th Court, Elmwood Park 35, Illinois.

McGahey, William Buckles, (GP), 703 Division Street, Webster City, Iowa.

Marzouk, Baroukh Y., (GP), St. Joseph's Hospital, Phoenix, Arizona.

Parks, William Stacy, (GP), Hayden Clinic, Hayden, Arizona.

Popoff, Frederic E., (GP), Eloy Medical Center, Eloy, Arizona.

Presbrey, Richard B., (GP), Payson Clinic-Hospital, Payson, Arizona.

Riker, Aaron Dudley, (Oph), 1012 Riker Building, Pontaic 15, Michigan.

Sanderson, Willis, (Anes), Parkland Memorial Hospital, 5201 Harry Hines Boulevard, Dallas, Texas.

Schrieber, Melvyn Hirsh, (Rnt), U.S.A.H., Fort Huachuca, Arizona.

Sexton, Jack Martin, (GP), Hayden Clinic, Hayden, Arizona.

Siegel, Irving, (ObG), 2755 West 15th Street, Chicago 8, Illinois.

Smith, Euclid Monroe, (I-Rheu), 1103 Medical Arts Building, Hot Springs, Ark.

Snyder, Frederick Preston, (Or), 926 East McDowell Road, Phoenix, Arizona.

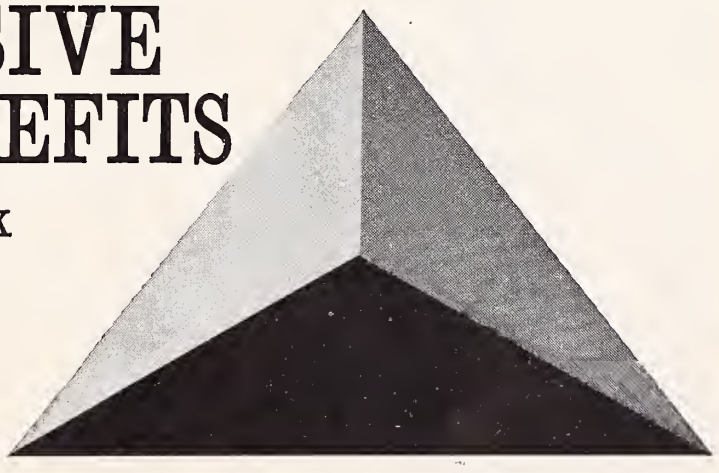
Sorensen, Elmer Mork, (Oph), 502 Reed Street, Red Oak, Iowa.

Strachan, Willis Lloyd, (P), 4115 University Way, Seattle 5, Washington.

Wendt, Hilbert Paul, (GP), 318 North La Brae, Thief River Falls, Minn.

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Clinical reports on Dartal: 1. Edisen, C. B., and Samuels, A. S.: A.M.A. Arch. Neurol. & Psychiat. *80*:481 (Oct.) 1958. 2. Ferrand, P. T.: Minnesota Med. *41*:853 (Dec.) 1958. 3. Mathews, F. P.: Am. J. Psychiat. *114*:1034 (May) 1958.

SEARLE

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2nd ANNUAL NORTHERN ARIZONA MEDICAL SEMINAR

Arizona State College

Flagstaff

PROGRAM

Thursday, August 4

9:00-9:30 a.m. — Registration, Education Building, Arizona State College.

9:30-10:30 a.m. — Nephroses in Infancy, Childhood, and Adult Life. Robert Kark, M.D.

10:30-11:30 a.m. — X-Ray Diagnoses Encountered in the Aging GI Tract. Vincent P. Collins, M.D.

11:30-11:45 — Coffee.

11:45-12:45 — Endometrioses. Ralph A. Reis, M.D.

1:00-2:00 p.m. — Luncheon.

2:15-3:15 p.m. — Problems in Peritonitis. Champ Lyons, M.D.

3:15-4:15 p.m. — Disorders of the Clotting Mechanism. E. C. Beatty, Jr., M.D.

Friday, August 5

9:00-10:00 a.m. — Upper Gastro-Intestinal Hemorrhage. Eddy D. Palmer, M.D.

10:00-11:00 a.m. — Surgical Treatment of Diseases of the Liver. Champ Lyons, M.D.

11:00-11:15 a.m. — Coffee.

11:15-12:15 a.m. — Laboratory Aids in the Diagnoses of Pediatric Anemias. E. C. Beatty, Jr., M.D.

12:30-1:45 p.m. — Luncheon and Discussion.

2:00-3:00 p.m. — Recent Advances in the Understanding and Management of Renal Disease. Robert Kark, M.D.

3:00-4:00 p.m. — Diabetes and Pregnancy. Ralph A. Reis, M.D.

7:30 p.m. — Cocktail Hour. Banquet. Dance.

Saturday, August 6

9:00-10:00 a.m. — When Is the Diagnoses of Cancer Early? Vincent P. Collins, M.D.

10:00-11:00 a.m. — Gastritis with Emphasis on its Histopathological Significance. Eddy D. Palmer, M.D.

11:00-11:15 a.m. — Coffee.

11:15-12:15 a.m. — Special Problems in the Management of Erythroblastosis Fetalis. E. C. Beatty, Jr., M.D.

A.A.G.P. accredited. Registration fee: $35.

NINTH ANNUAL ARIZONA CANCER SEMINAR

The Arizona Division of the American Cancer Society will hold its Ninth Annual Cancer Seminar January 12, 13 and 14, 1961, at the Tidelands Motor Inn, Tucson, Arizona.

The faculty will be composed of lecturers in the fields of chemotherapy and biochemistry, environmental factors as they relate to cancer, endocrinology, bone pathology, virology, immunology, supravoltage and perfusion techniques, and the present status of cancer research in the United States, England and on the continent.

REGIONAL SUMMER MEETINGS

July 18-21 — New Mexico Chapter, American Academy of General Practice, Ruidoso Summer Clinic, Ruidoso, New Mexico.

July 20-21 — Rocky Mountain Cancer Conference, Denver, Colorado.

July 21-23 — Dermatology for General Practitioners, University of Colorado Medical Center, Denver, Colorado.

July 27-29 — American Academy of Pediatrics, Regional Meeting, Denver, Colorado.

August 10-13— Rocky Mountain Radiological Society, Denver, Colorado.

August 11-13 — Medical Statistics for the Clinician "What Numbers Can You Believe?", University of Colorado Medical Center, Denver, Colorado.

August 15-19 — Western Cardiac Conference, Denver, Colorado.

August 31-September 6 — Pediatrics, Estes Park, Colorado.

September 7-10 — Annual Meeting, Nevada State Medical Association, Las Vegas, Nevada.

September 7-10 — Annual Session, Wyoming State Medical Society, Moran, Wyoming.

September 11-14 — American College of Obstetrics and Gynecology, Denver, Colorado.

September 14-17 — Annual Session, Colorado State Medical Society, Estes Park, Colorado.

September 21-23 — Annual Session, Utah State Medical Association, Salt Lake City, Utah.

UNIVERSITY OF CALIFORNIA POSTGRADUATE PROGRAMS

July 17-20 — General Pediatrics, University Conference Center, Lake Arrowhead.

July 20-24 — Advanced Seminars in Internal Medicine, University Conference Center, Lake Arrowhead.

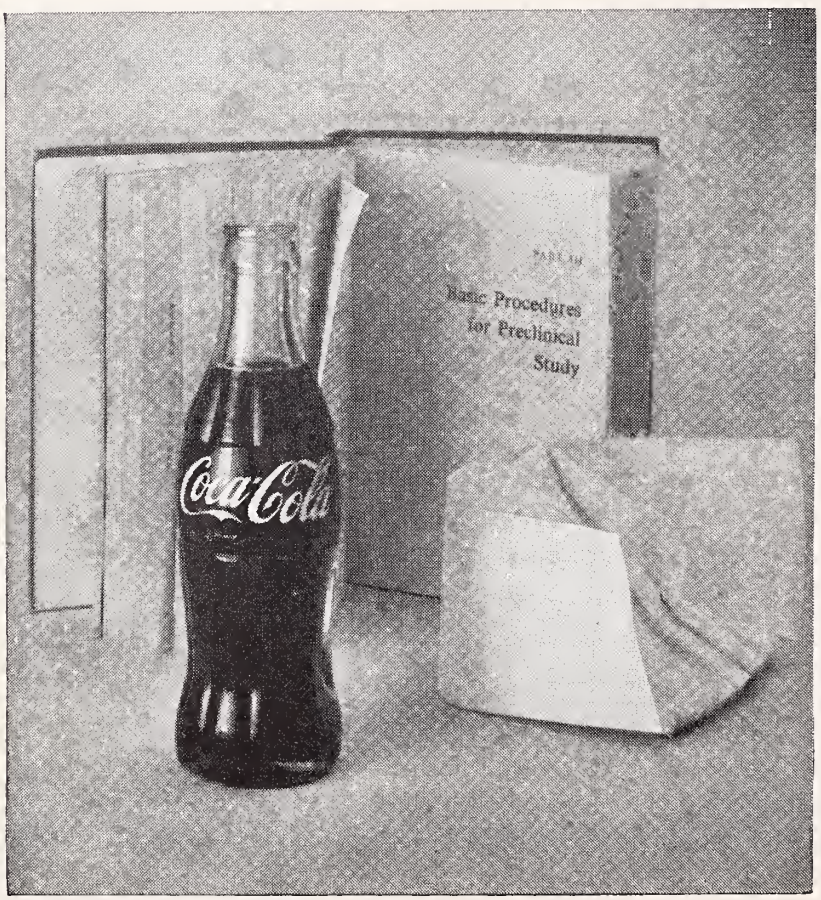
July 25 and 26 — Dermatology in Office Practice.

July 27-31 — Advanced Seminars in Dermatology — University Conference Center, Lake Arrowhead.

August 3-5 — Anesthesia for Special Procedures.

August 17 and 18 — Arthritis and Rheumatism.

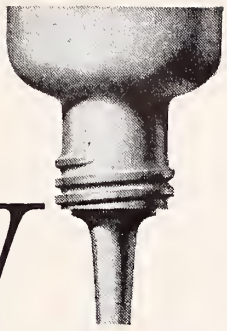
August 26 and 27 — Obstetrical procedures, Complications and Advances.



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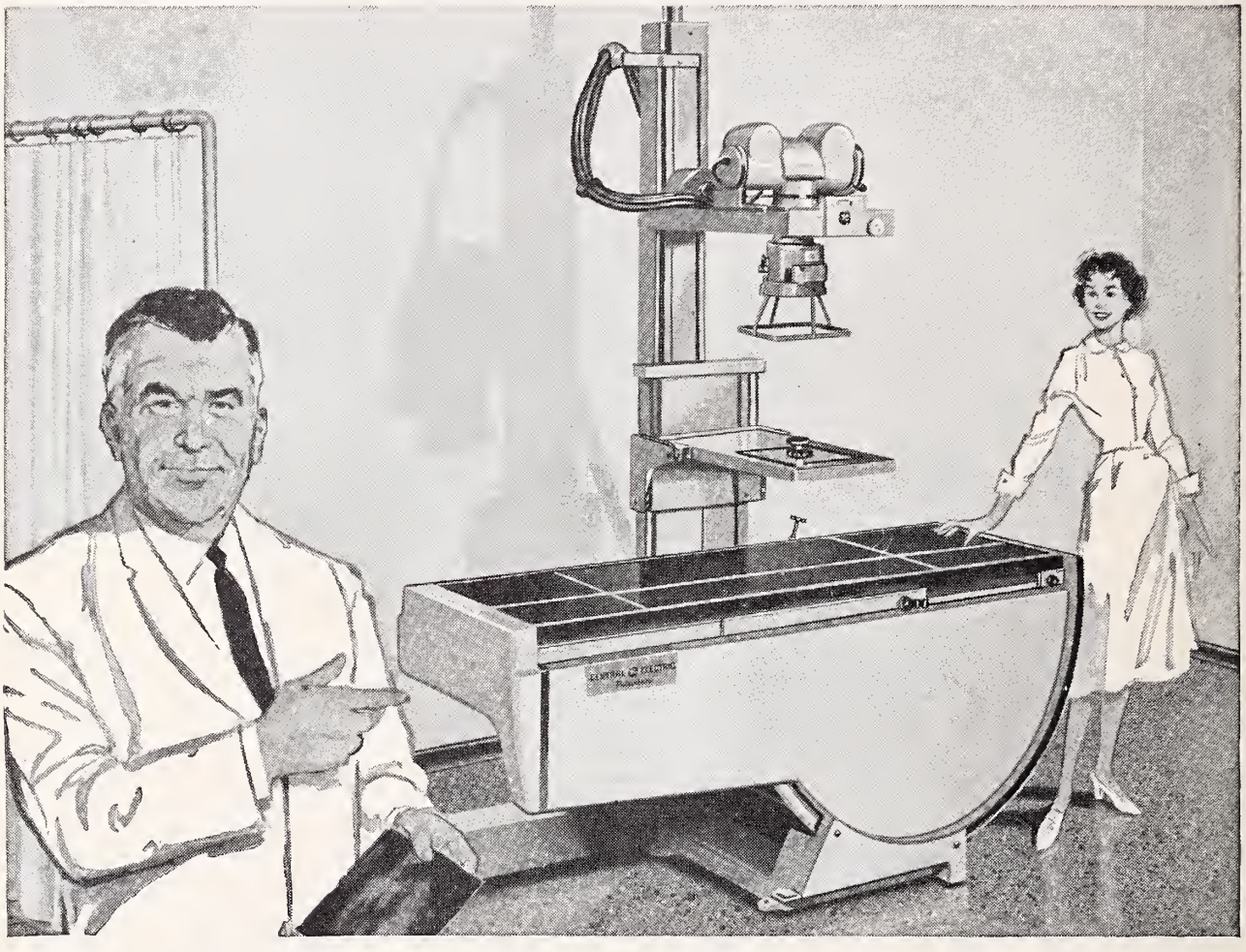
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1. Lippmann, O.: Arch. Ophth. **57**:339, March 1957.
2. Gordon, D.M.: Am. J. Ophth. **46**:740, November 1958.

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1. Projection from Vital Statistics, U.S. Government Dept. HEW, Vol. 48, No. 14, 1958, p. 398.
2. Modell, W.: Drugs of Choice 1958-1959, St. Louis, C. V. Mosby Company, 1958, p. 347.

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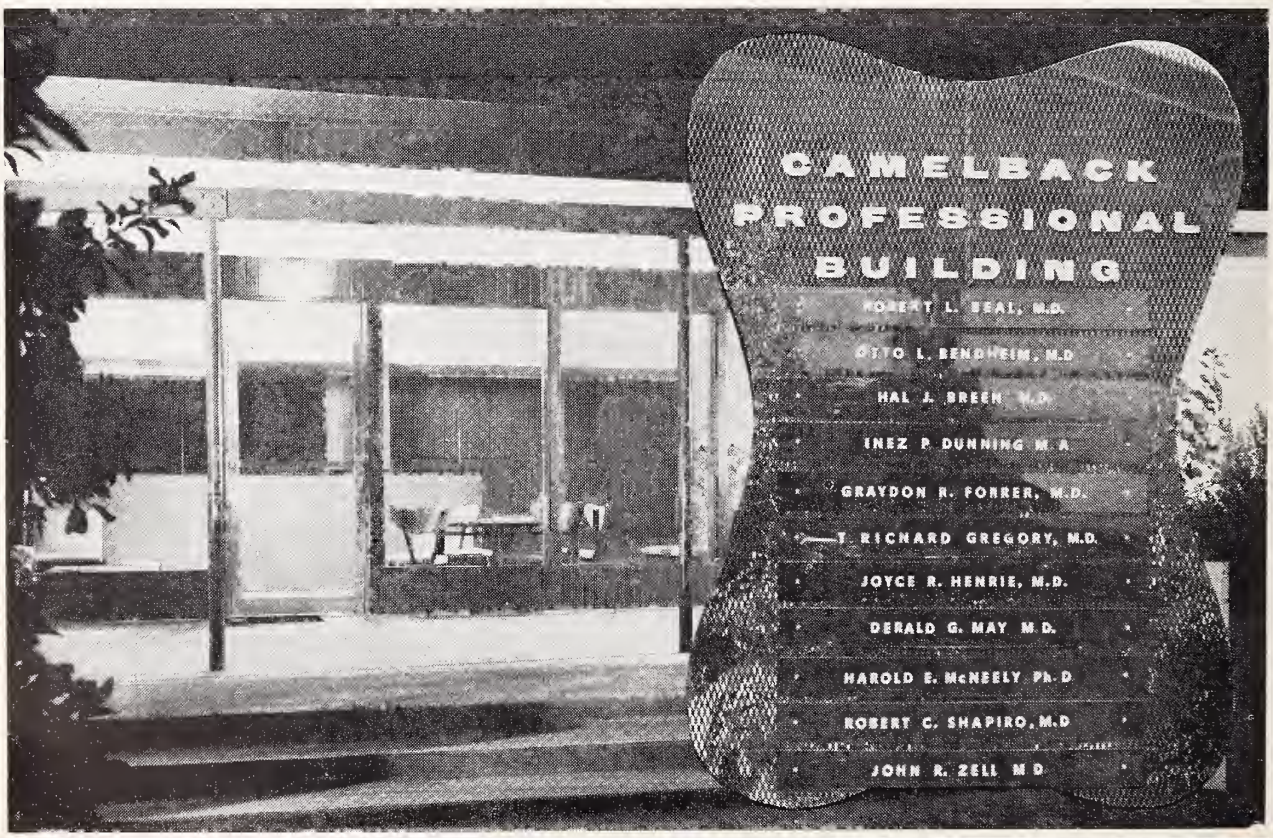
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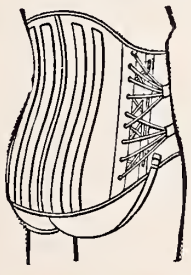
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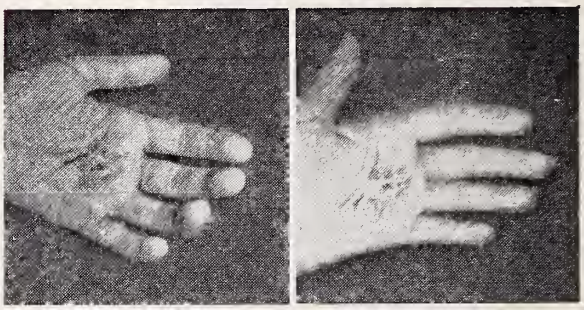
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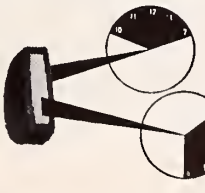
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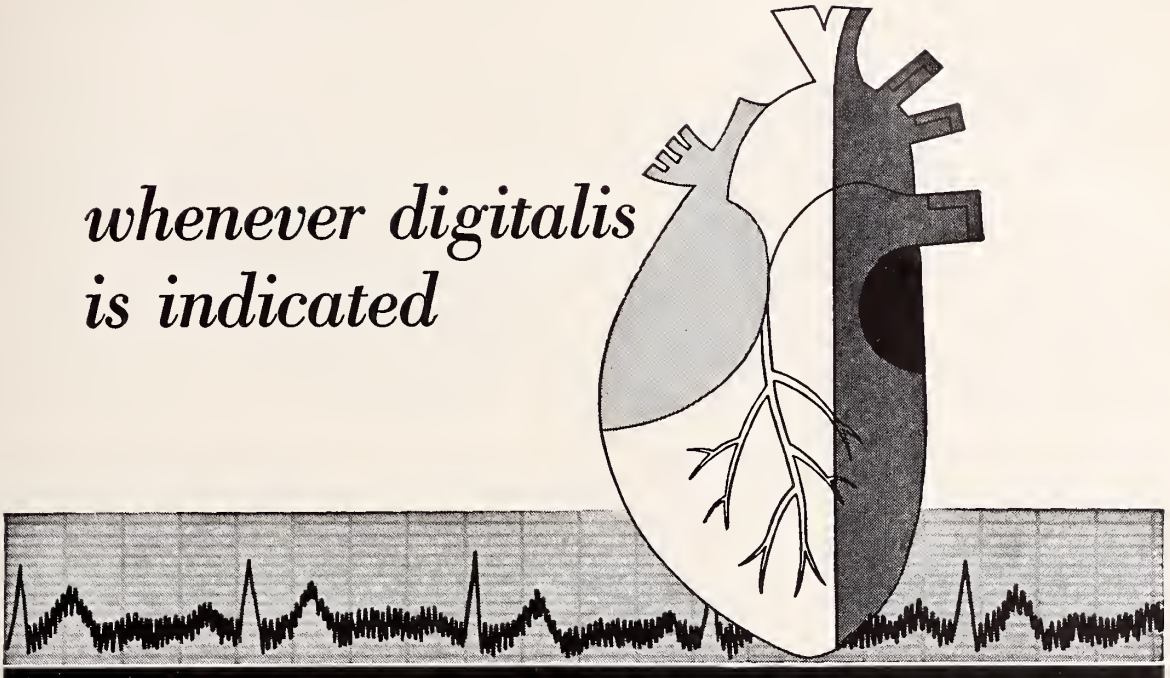
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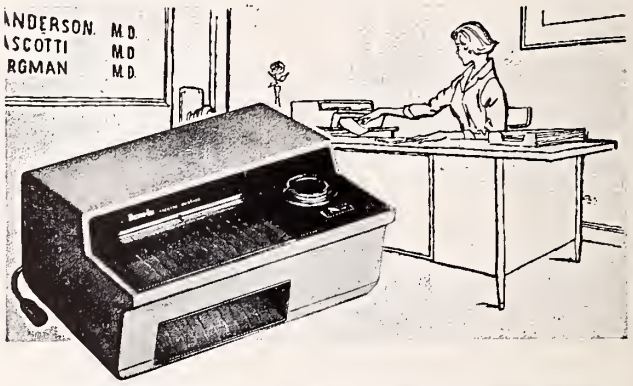
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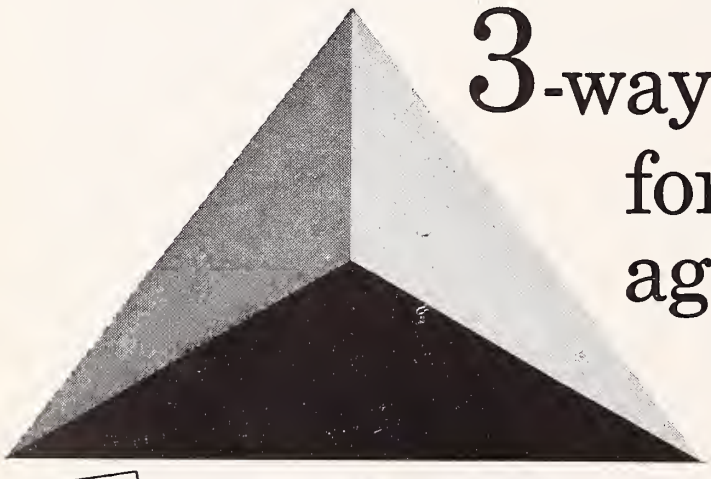
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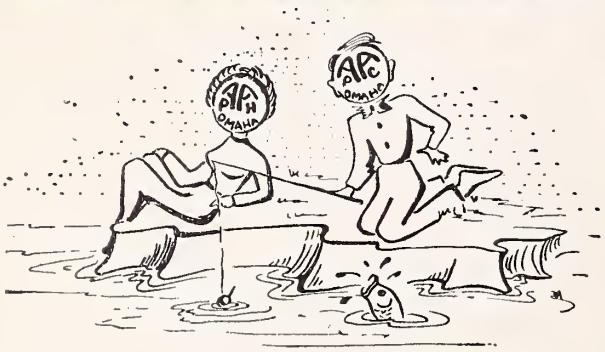
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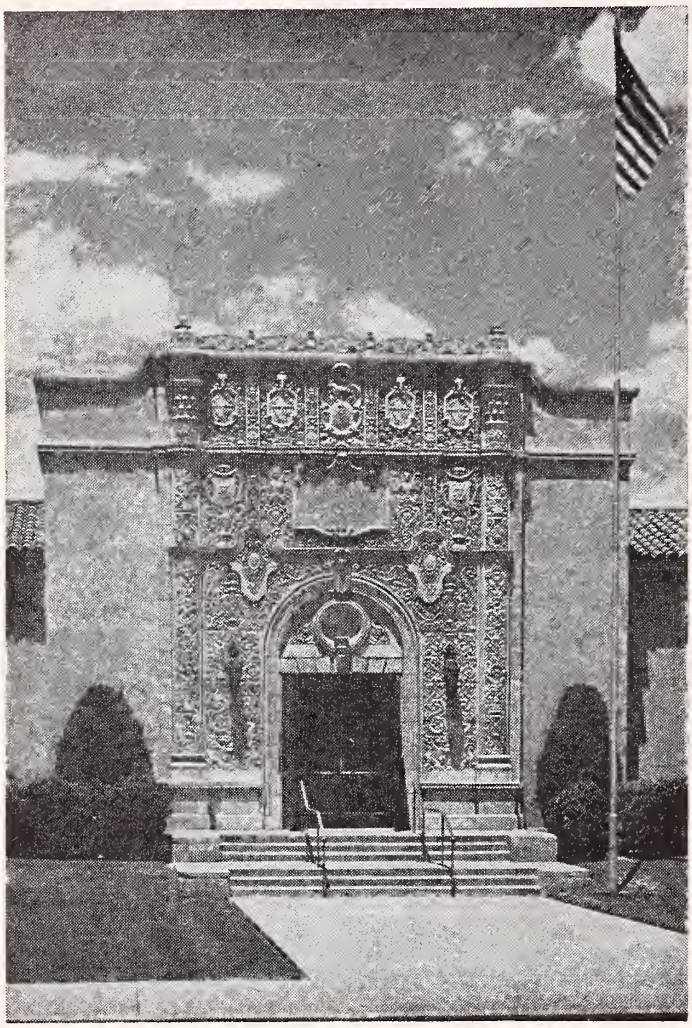
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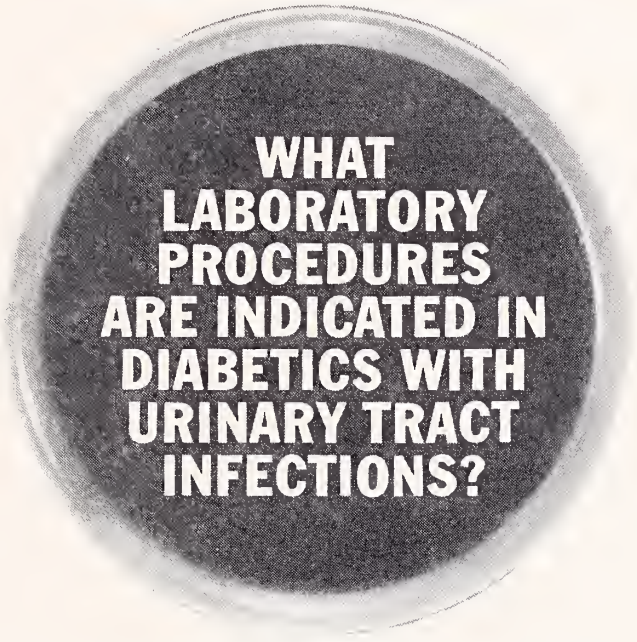
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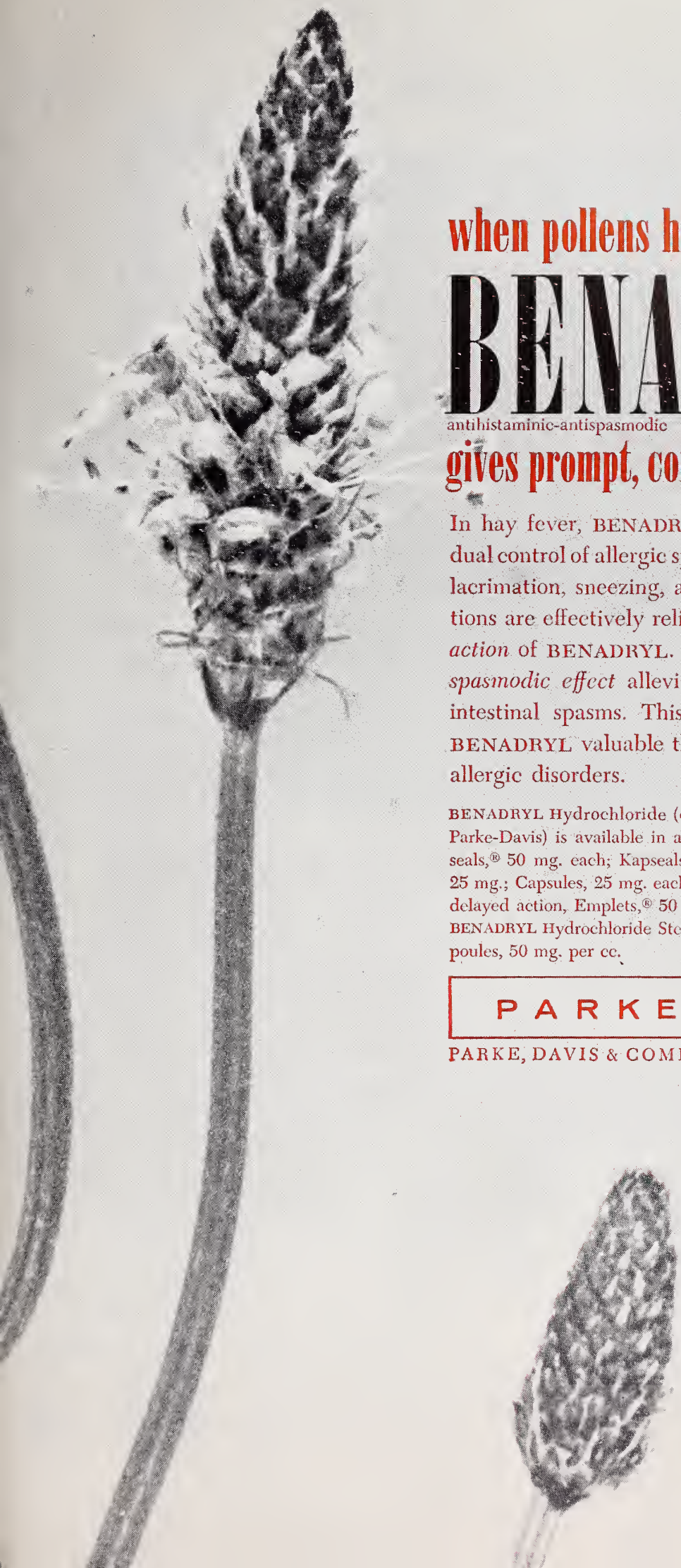
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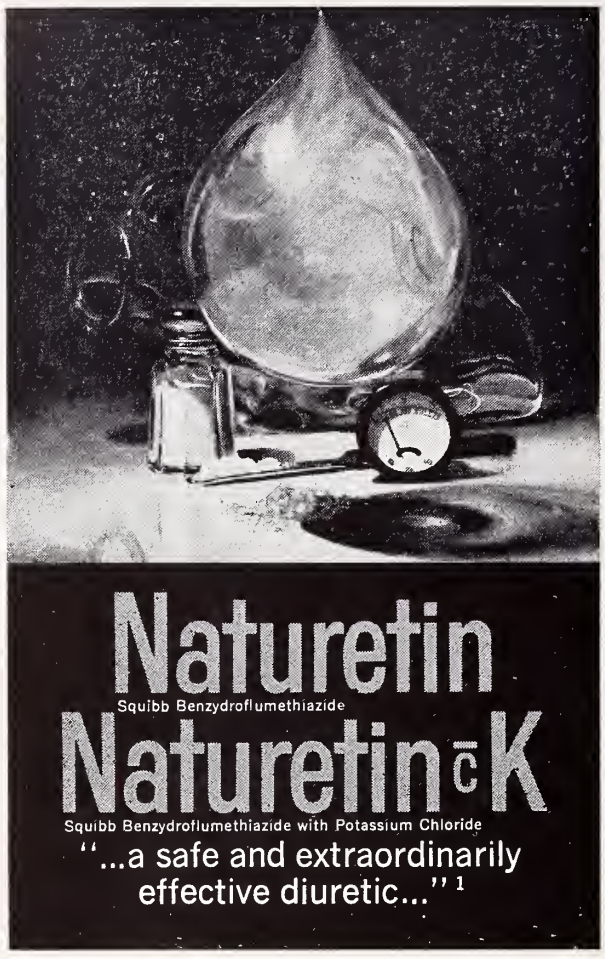
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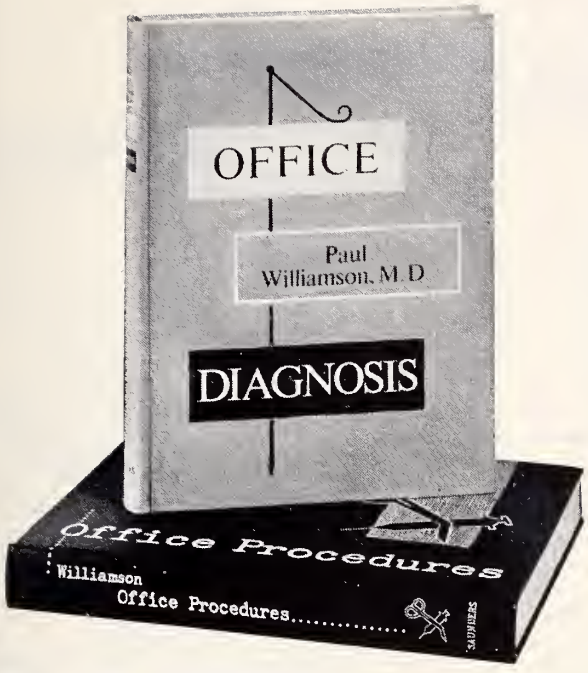
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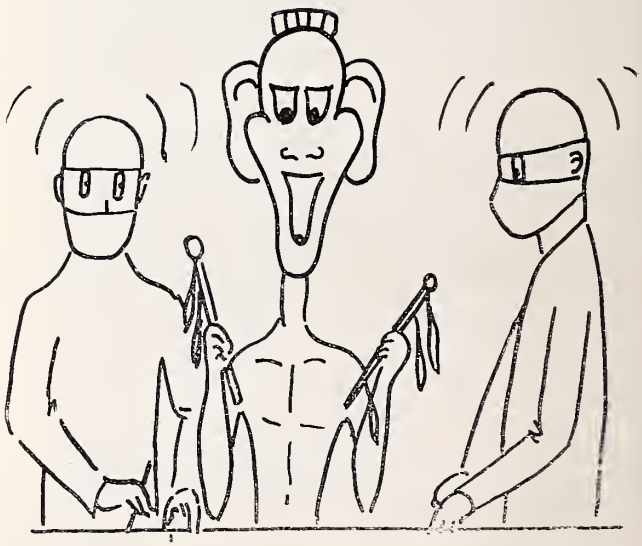
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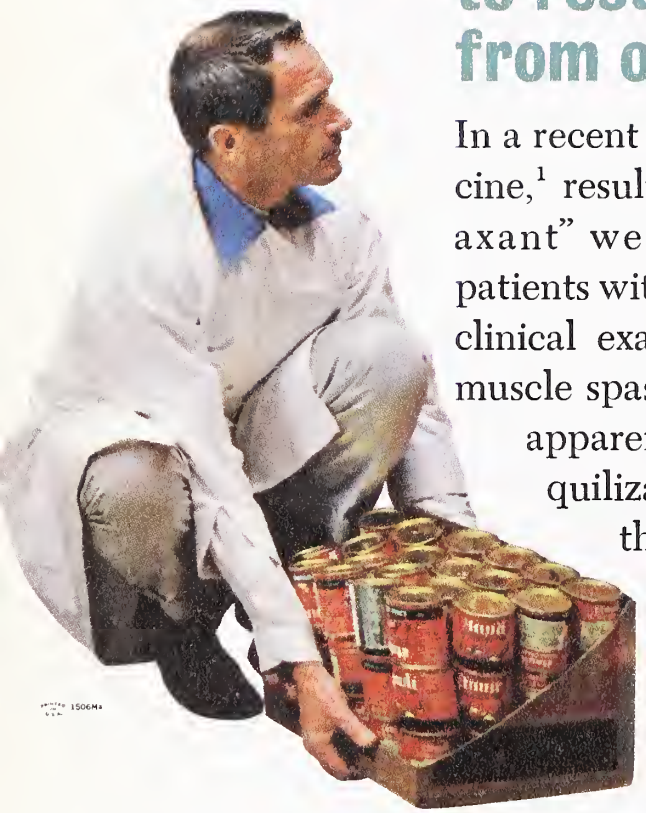
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Clinical results with Trancopal®[1]

	Excellent	Good	Fair	Poor	Total
LOW BACK SYNDROMES					
Acute low back strain	25	19	8	6	58
Chronic low back strain	11	5	1	1	18
"Porters' syndrome"*	21	5	1	1	28
Pelvic fractures	2	1	—	—	3
NECK SYNDROMES					
Whiplash injuries	12	6	2	1	21
Torticollis, chronic	6	2	3	2	13
OTHER MUSCLE SPASM					
Spasm related to trauma	15	6	1	—	22
Rheumatoid arthritis	—	18	2	1	21
Bursitis	2	6	1	—	9
TENSION STATES	18	2	4	3	27
TOTALS	112 (51%)	70 (32%)	23 (10%)	15 (7%)	220 (100%)

*Over-reaching in lifting heavy bags resulting in sprain of upper, middle, and lower back muscles.

Dosage: **Adults, 200 or 100 mg. orally three or four times daily.**
Relief of symptoms occurs in from fifteen to thirty minutes and lasts from four to six hours.

How Supplied: Trancopal Caplets®
200 mg. (green colored, scored), bottles of 100.
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1. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960.

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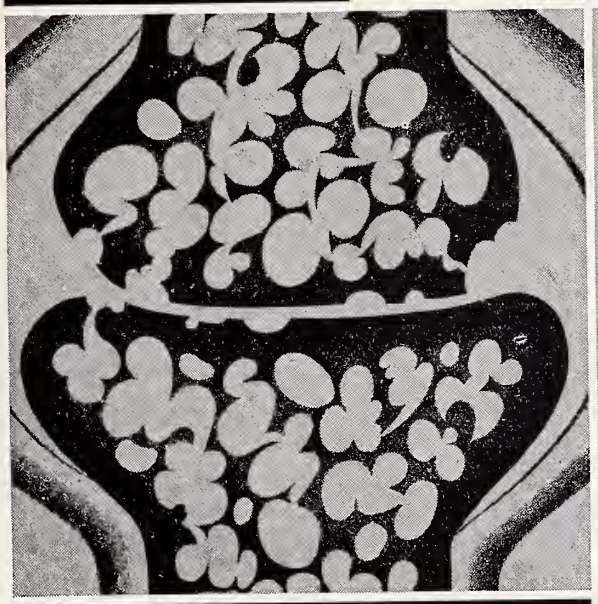
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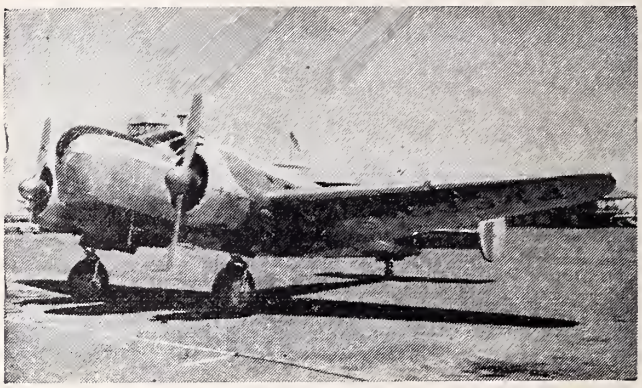
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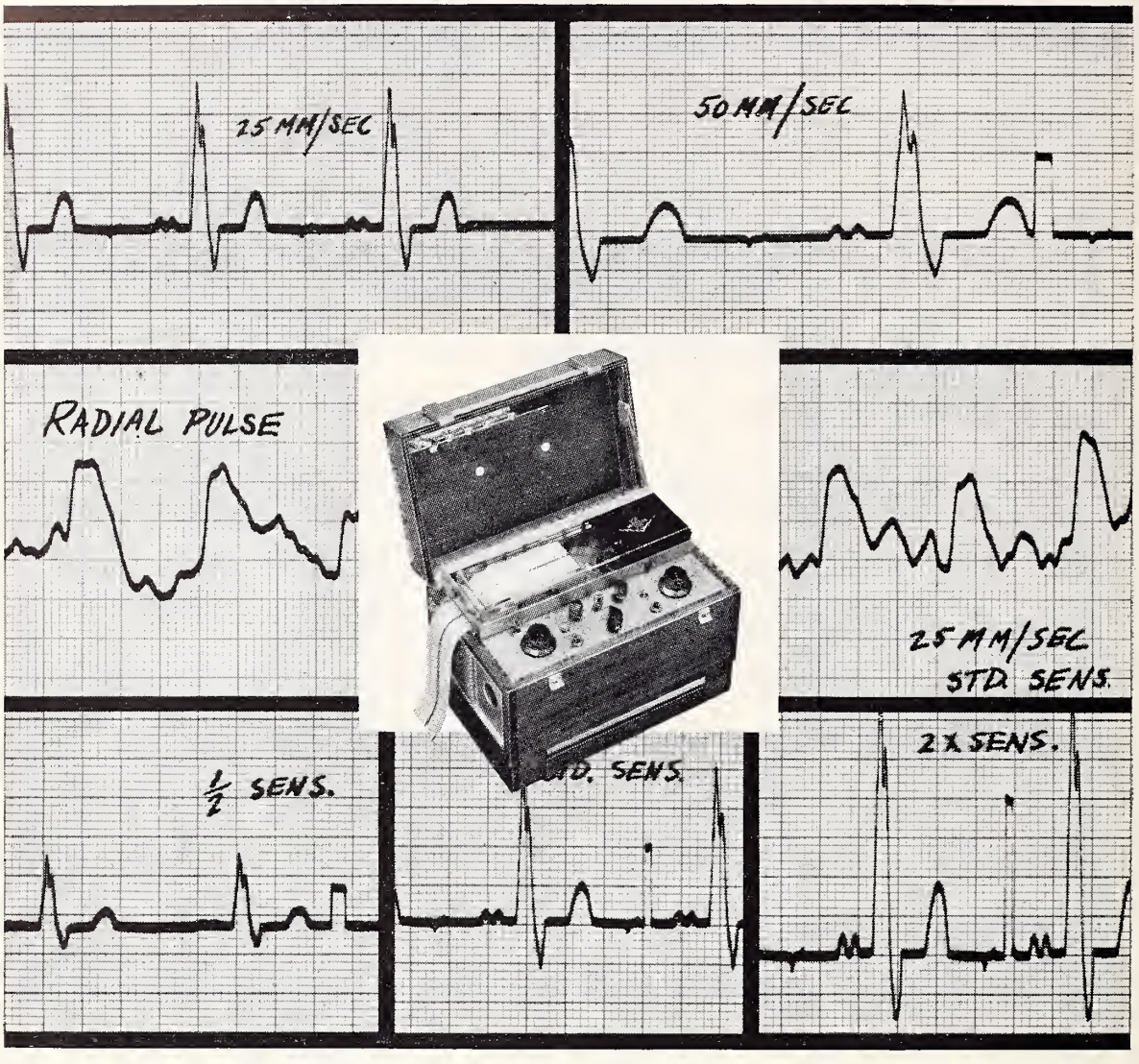
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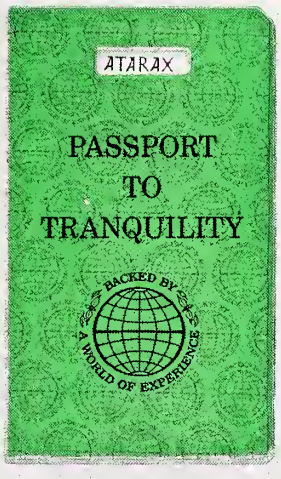
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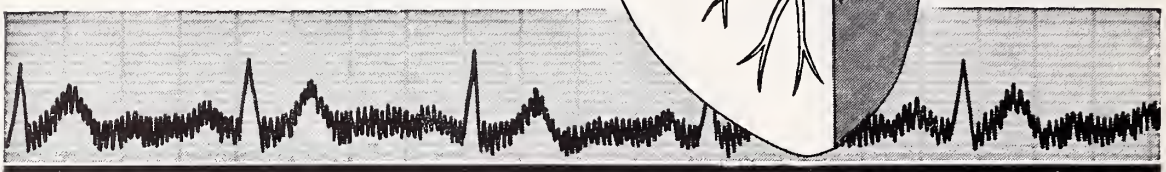
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IN ELDERLY PATIENTS well tolerated by debilitated patients	"...seems to be the agent of choice in patients suffering from removal disorientation, confusion, conversion hysteria and other psychoneurotic conditions occurring in old age." Smigel, J. O., et al.: J. Am. Geriatrics Soc. **7**:61 (Jan.) 1959.	Settel, E.: Am. Pract. & Digest Treat. **8**:1584 (Oct.) 1957. Negri, F.: Minerva med. **48**:607 (Feb. 21) 1957. Shalowitz, M.: Geriatrics **11**:312 (July) 1956.
IN ALLERGIC PATIENTS useful adjunctive therapy for asthma and dermatosis; particularly effective in urticaria	"All [asthmatic] patients reported greater calmness and were able to rest and sleep better...and led a more normal life....In chronic and acute urticaria, however, hydroxyzine was effective as the sole medicament." Santos, I. M., and Unger, L.: Presented at 14th Annual Congress, American College of Allergists, Atlantic City, New Jersey, April 23-25, 1958.	Eisenberg, B. C.: J.A.M.A. **169**:14 (Jan. 3) 1959. Coirault, R., et al.: Presse méd. **64**:2239 (Dec. 26) 1956. Robinson, H. M., Jr., et al.: South. M. J. **50**:1282 (Oct.) 1957.
IN HYPEREMOTIVE ADULTS does not impair mental acuity	"...especially well-suited for ambulatory neurotics who must work, drive a car, or operate machinery." Ayd, F. J., Jr.: New York J. Med. **57**:1742 (May 15) 1957.	Garber, R. C., Jr.: J. Florida M. A. **45**:549 (Nov.) 1958. Menger, H. C.: New York J. Med. **58**:1684 (May 15) 1958. Farah, L.: Internat. Rec. Med. **169**:379 (June) 1956.

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Original Articles

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Parkinson's Disease and Related Dyskinesias

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Tucson, Arizona

PARKINSON'S Disease or paralysis agitans was first described by James Parkinson in 1817 and represents but one of a series of related dyskinesias which have been subject to much neuranatomical, physiological and chemical investigation in the succeeding years. Chorea, athetosis, choreoathetosis, ballism and dystonia musculorum are the other members of the group. Descriptive terminology must, of necessity, be used to identify the individual members and indeed a severe dyskinesia may include certain observable features of all of them. Basically, however, the abnormal movements of chorea are abrupt and jerky, involving the extremities and frequently the trunk. There may be grimacing movements of the face. The flinging of the arms and legs with flexion and extension of the trunk cause the patient's gait to have the appearance of a grotesque dance(1). Ballism is perhaps a more severe example of chorea(2). On the other hand, the involuntary movements of athetosis are slow and writhing in character, generally involving the upper extremities more extensively than the lower and the distal joints more severely than the proximal. When quick jerky movements complicate the slow sinous variety, the term chorcoathetosis is applied(3). In dystonia the involuntary movements are athetotic but complicated by twisting "torsion spasms" of the pelvis and shoulder girdles(4). Paralysis agitans is characterized by coarse, rhythmic tremor at rest, masked facies, festination or propulsive gait, and usually some increased muscle tone, the demonstrable cogwheel rigidity. To further elaborate on Parkinson's tremor, it disappears during sleep, decreases on voluntary motion and is exaggerated by emotion. Rigidity may be predominant and

may exist as a separate entity to tremor and vice versa.

Leaving the other dyskinesias for the moment, to focus attention on paralysis agitans, it can be pointed out that there are several types of this affliction and a convenient classification has been suggested by Alvord(5).

I. Typical Parkinsonism
 a, senile, presenile or idiopathic
 b, encephalic
 (1) Von Economos lethargic encephalitis
 a, acute "encephalitic"
 b, late "post encephalitic"
 (2) other types of encepthalitis
 c, "juvenile", often familial
 d, other "sympomatic" (certain cases of Wilson's Disease, Carbon monoxide, etc.)

II. Atypical Parkinsonism (i.e. rigidity without tremor)
 a, arteriosclerotic
 b, other

The physiological basis for paralysis agitans is for the present unknown. However many structures and combination of structures have been implicated. The basal ganglia seem to be the focus for the production of the tremor of Parkinson's Disease. These paired structures consist of the caudate nucleus, internal capsule and putamen, this combination being spoken of as the striatum and the two parts of the globus pallidus are known as the pallidum. In some way malfunction of this system results in tremor. One cannot be truly specific as to what type of malfunction or its exact location is responsible, for as will be developed subsequently, destructive lesions created within parts of this and other systems have been credited with the alleviation of tremor. Those systems and structures implicated in this entity are the entire pyramidal and extra pyramidal nervous systems, their cells of origin, afferent and efferent interconnections and ultimate outflow through the cerebral spinal nerves. Specifically those parts of these two motor systems which are suspect from cephalad and rostrad are Brodman's cortical areas 4 and 6; the controversial suppressor areas particularly 4s; and the striatum and pallidum as previously mentioned. Furthermore connecting pathways between the globus pallidus and the ventral thalamus through the ansa lenticularis and fasicularis lenticularis importantly enter the picture. Finally the contents of the mesencephalic tegmentum which include the subthalamic nucleus of Luysii, the red nucleus, substantia nigra and reticular activating substance which extends into the pons and below are most certainly involved. Other structures may well be implicated but the above will serve to demonstrate the complexity of the necessary studies before the answers to tremor production and relief can be compounded.

For many years investigation has been hampered and slow progress was made until the sterotaxic methods were introduced. Prior to this, beliefs were based on clinical pathological studies of infrequent cases and at times deductions were made from logic alone by admittedly good thinkers. Let us hasten to state that even with this background, the age of stimulation and destruction has not as yet provided all the answers. In reviewing the many conflicting beliefs up to 1932, Bucy and Buchanan stated, "The destructive lesion disclosed by anatomical study cannot possibly demonstrate the physiological effector mechanism which produces motor manifestations. Destructive lesions are of necessity negative phenomenon. They destroy but do not produce"(6).

More recently Martin, in considering Chorea, phrased the above somewhat differently. "A destructive lesion cannot of itself give rise to positive symptoms. The choreic movements must depend on irregular impulses entering the motor system and clearly such impulses cannot arise from destroyed tissue but must be coming from cells that are intact and travel along intact pathways"(7).

Continuing in this vein, Ward's hypothesis concerning the mechanism of the tremor becomes more complicated and may be quoted in abbreviated form. "Tremor is driven by hyperactivity of "tremorogenic" cells in the midbrain and that this hyperactivity is the result of discrete interruption of fibers terminating upon them. The destroyed fibers perhaps have inhibitory synaptic endings on the tremorogenic cells. Presumably they arise at more cephalad levels and funnel together in the mesencephalon at about the level of the red nucleus. That denervation hypersensitivity to acetylcholine may occur and result in released energy in the form of tremor completes this interesting concept"(8). Certainly the reticular activating system is sus-

pect of involvement in all motor and sensory interrelations. French has stated that this system must be considered the great integrating mechanism of the brain without which unity of response to complex environmental stimuli is impossible(9). It might be added that environment should connote in this sense both internal and external locale.

Bucy, on the other hand, presents evidence that the cortico-spinal tract is responsible for the tremor of Parkinson's disease. He abolished the tremor by extirpation of the precentral gyrus (10). Parkinson had noted the disappearance of tremor following capsular hemiplegia. Walker and others demonstrated the disappearance of tremor after section of the cerebral peduncle (11) and Putnam accomplished reduction of tremor by section of the lateral cortical spinal tract in the spinal cord lateral column(12). Martin considers the globus pallidus, striatum, corpus Luysii and substantia nigra as a physiological group which act through the globus pallidus and that a lesion made in the globus pallidus or its efferent fibers has the negative effect of abolishing positive symptoms produced by disease elsewhere but emanating through the globus pallidus(13). Actually very few facts concerning this entire system may be considered proven. Perhaps as close as can be established, destruction of the corpus Luysii in some way gives rise to hemichorea and the globus pallidus provides something which is essential for the occurrence and persistence of the movements.

It is not intended that this presentation be made a complete review of hyperkinesia and the arguments intended to refute these divergent hypotheses need not be given here. A neat task would be to pin point a lesion, or lesions, responsible for a specific dyskinesia and then to identify the structure or structures, the integrity of which is necessary for perpetuating the disorder.

The voice of conscience in Russell Myers now arises and warns that "If for example, the statement that damage to the substantia nigra is responsible for the appearance of tremor, akinesia and/or rigidity is to be honored as true then (1) Every case characterized during life by one or more of the clinical signs under inquiry should exhibit when examined at post mortem, some damage to the substantia nigra, and there alone. (2) Cases lacking the clinical signs under inquiry should exhibit at post mortem examination no instance of damage to the substantia nigra. (3) Every brain which shows at post mortem examination some damage to the substania nigra should correspond, without exception, to a patient who during life, exhibited the clinical signs under inquiry. (4) Every brain which at post mortem study fails to show some damage to the substantia nigra should correspond to a patient who, during life, exhibited none of the clinical signs under inquiry".

"Similar statements concerning the relationship between tremor and the substantia nigra have been made implicating other structures such as the striatum, pallidum, the dorsal thalamus and other structures in the brain stem".(14).

Knowledge of the pathological changes occurring in paralysis agitans is also limited. Alvord states that cytoplasmic changes, Lewy bodies and Alzheimer triangles are observed in the substantia nigra and locus coerulus. Other than this, data on changes in other structures such as the globus pallidus is incomplete. Differences in stains, technics and interpretations may be responsible for unconfirmed reports and unduplicated findings of specific neuropathological changes in a dyskinesia(15). The hope of future investigation is for improved technic demonstrating neuron loss which cannot be taken for artefact or in the absence of demonstrable neuron loss, changes in neuron biophysics and conduction.

There has been no effective medical treatment for any of the dyskinesias except paralysis agitans. In this affliction various drugs of the solenaceous alkaloids, synthetic parasympatholytics, antihistaminics, stimulants, relaxants and ataractics have been used individually or in combination depending on the particular needs of the patient. The mode of action of these drugs are a matter of theory, but experimentally, tremor induced by stimulation of the reticular formation in the monkey can be reduced or abolished by the parenteral administration of anticholinergic drugs. Tremorigenic lesions, as found in Parkinsonism, may interrupt projections to cells in the medial reticular formation, hypersensitivity to acetylcholine develops, and thus the anticholinergic drugs are effective in relieving tremor (16). Furthermore adrenalin which activates midbrain reticular cells towards the alerting state greatly increased Parkinsonian tremor. Anticholinergic drugs like Atropine reduce both tremor and rigidity as they affect these same

cells towards inhibition of the alerted state(17).

As with most drugs unpleasant side effects may frequently occur. The patient with more than mild paralysis agitans usually has restriction of movement and is like a prisoner in solitary confinement. He loses ability by facial expression to disapprove or appreciate the many things and efforts of others that surround him. However his vision, hearing, smell, taste, memory, impressions, abstract ideas are all normal but cannot tie in with motor performance and expression. To add to his restrictive woes he is given drugs to reduce his captive rigidity and tremor only too frequently at the expense of his precious residual, a clear mind with freedom of memory and thought(18).

Therefore it is with considerable interest that the Parkinson population: patients, relatives, friends and physicians follow the accumulating results of a surgical approach which offers relief of tremor and rigidity without sacrifice of motor power or reduction of the special senses mentioned previously but also admittedly not affecting the course of the disease.

Cooper(19) reported the relief of contralateral tremor and rigidity in a patient with paralysis agitans in which an inadvertent occlusion of the anterior choroidal artery had been accomplished. Further studies and subsequent similar successes justified the conclusion that the effectiveness of anterior choroidal artery occlusion was due to infarction of more than a single, small anatomic structure and probably involved a physiological unit of two or more intracerebral structures. This artery is a branch of the internal carotid artery and from its anterior portion supplies in part, the amygdala and hippocampus, the tail of the caudate nucleus and hippocampal complex. Further caudad it gives branches to the mesial aspect of the globus pallidus and more distally to the anterior, lateral and posterior nuclei of the ventro-lateral thalamus. The fiber tracts passing through the zone of irrigation of this vessel are the fornix, stria terminalis, anterior hypothalamic commissure, supra optic commissure, and the posterior two thirds of the posterior limb of the internal capsule which lies between the globus pallidus and the lateral aspect of the ventro-lateral nucleus of the thalamus(20).

Because of inherent difficulties in technic of choroidal artery occlusion and doubtful applicability to an older age group, the procedures of chemical interference with the globus pallidus and ventral thalamus was developed(21). Others duplicated these procedures and utilized electrolytic, mechanically placed and ultra sound destructive lesions(22) (23) (24).

Cooper's(25) conclusions after evaluating the results of 700 operations employing anterior choroidal occlusion, chemopallidectomy and chemothalmectomy for paralysis agitans were that the artery occlusion was somewhat more effective than the other procedures in permanently relieving tremor and rigidity, but that pallidectomy and thalamectomy are capable of relieving tremor and rigidity in 80% of cases. The most useful single lesion for relief of both tremor and rigidity was the thalamic lesion. Schwab and England(26) in a cautious evaluation of a group of 50 cases supplied by them and operated either by Dr. Cooper at St. Barnabas Hospital or by Dr. William Sweet and Associates at Massachusetts General Hospital concluded that successful surgical intervention is far more impressive than any medical degree of improvement. Their conclusions were restricted by their opinion that patients over 60 years of age were uncertain risks and that the operation should be limited to strictly unilateral cases in good health with no evidence of generalized brain impairment. Modifying somewhat, they recognized that the procedures should not be delayed until late in the disease with total incapacitation, but should be considered early in the disease when the results would be more gratifying and the risks small.

Experience has been gathered in a small series of dyskinesias treated by the authors with chemical interference of the globus pallidus or thalamus. Nine cases of parlysis agitans and a single case of unilateral athetosis have been so treated. Of the nine cases of Parkinson's disease, four had essentially unilateral involvement. All of these were benefited by a contralateral procedure in that tremor and rigidity were reduced. Two cases with bilateral involvement may be considered as improved after bilateral procedures. The initial operation on still another individual with bilateral involvement had been performed elsewhere with improvement, and the contralateral procedure performed here contributed to improvement in those extremities not affected by the first procedure. There was one mortality in a case with bilateral involvement, secondary to massive intracerebral hemorrhage

produced by the procedure. In the paralysis agitans series, was a case with bilateral involvement which represented a poor selection of material for surgery. The initial operation did not produce desirable improvement and a second operation is not contemplated. It might be stated here that none of these patients are completely free of dependency on some medication.

A single case of spontaneous unilateral athetosis in an 80 year old woman was treated with contralateral chemothalmectomy and the tremor has not recurred during the twelve months period following surgery.

Complications other than the mortality mentioned have been paraphasias in two cases following the placing of left sided lesions in right handed patients. One case cleared rapidly and the other, although improved, represents a major complication. Bronchopneumonia complicated the poorly selected case.

CONCLUSIONS:

A discussion of the dyskinesias has been given with particular reference to paralysis agitans. Surgical results of others have been cited and our results in a small series presented.

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B. P. Storts, M.D.

Surgical Treatment of Otosclerosis By Mobilization of Stapedial Footplate*†

by

Douglas W. Frerichs, M.D.

INTRODUCTION

SURGICAL advancement in treating forms of conductive deafness and eradication of chronic ear infections have been monumental during the past five years. The impetus for modern ear surgery started twenty-one years ago when Dr. Julius Lempert(1), developed a practical one-stage operation for treatment of conductive deafness due to otosclerosis. The neccssity of optieal magnification of the surgical field, and the value of using high speed electrically driven burrs to perform this type of ear surgery, brought about a change in otologic surgical technique that has encompassed the world. Subsequent adaptations of Lempert's methods have brought about many refinements in otological surgery. Operations have been developed in the last six ycars, which offer improved hearing in people with tympanic membrane perforations, chronic adhesive otitis, chronic otitis media and chronic mastoiditis.

Although Dr. Lempert's fenestration operation has been replaced in part by direct stapedial approach, it was through a procedure developed by him that popular methods of correcting hearing in otosclerosis were evolved(2).

Dr. Samuel Rosen(3), a pupil of Lempert's, adapted a direct approach (devised originally by Lempert for tympanosympathectomy) and by the use of a tympano-meateal flap, a method of attacking the otosclerotic process at the stapedial footplate was devised.

PATHOLOGY

Otosclerosis is a pathological osseous abnormality which occurs in the petrous bone. Symptoms are not manifested unless the osseous changes encroach on the footplate of the stapes, penetrate the cochlea, or obstruct the round window. The common area involved that produces symptoms is the anterior margin of the footplate of the stapes. Fixation of this ossicle prevents a normal tympanic membrane from transmitting sound waves to the cochlea. Complete uncomplicated fixation of the stapes usually results in a hearing loss of 40-50 decibels. This is considerably below the level needed to comprehend normal, conversational voice.

HISTORY

The patient with otosclerosis usually notices the hearing impairment between the ages of twenty and thirty years. A family history of deafness in a parent or sibling is often elicited. The

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†Spanish translation by Augusto Ortiz, M.D., Phoenix.

deafness is insidious in onset and may develop rapidly in a few years or slowly produee symptoms over a deeade. A eonstant tinnitus is usually present. The disease shows a predominance in females and pregnancy often accelerates the symptoms. Many patients are wearing hearing aids at the time of their examination and although they may profess dissatisfaetion with the instrument, they will admit that hearing is improved by sound amplification.

EXAMINATION

The patient with otosclerosis is soft spoken, as his bone conduetion is normal and he hears his own voice clearly. The ear drum has a normal appearance, exeept in advaneed eases, which may reveal an odd, pinkish-hue in the posterior-superior quadrant. This phenomenon is due to an inereased vaseularity of the otoselerotic bone behind the drum, and is known as "Schwartze's Sign". The drum is mobile. The eustachian tubes are patent when insufflated. Plaeing a tuning fork with a frequency of 512 D.V. or 1024 D.V. alternately beside the external auditory meatus and then on the mastoid process reveals that bone eonduction is louder than air conduction (negative Rinne Test).

The disease is usually bilateral and a 256 D. V. tuning fork plaeed on the vertex of the skull refers to the ear with the greatest hearing loss. If the intensity of the examiner's voiee is raised or a speaking tube is used, the patient should comprehend almost all spoken words. Audiometric examination reveals a characteristic flat line for air conduction with near normal bone conduction. X-rays of the mastoids are usually negative. A sclerotie mastoid does not contraindieate surgery.

At times other tests may be necessary for selection of surgical candidates but these usually require special otological equipment and training in interpretation.

SURGICAL TECHNIQUES

Under local anesthesia as described by Dr. Rosen, an incision is made in the external auditory canal, 6-8mm. lateral to the annulus tympanicus. The skin and the tympanic membrane are reflected anteriorly as a continuous flap. Bony annulus is removed if necessary until the stapes is well exposed. Utilizing a Zeiss operating mieroscope, mobilization is attempted by transincudal, stapedial, or direct footplate attaek. In the event that the stapes is firmly frozen and mobilization is diffieult, methods devised by Goodhill(4), Fowler(5), House(6), and Shea (7), may be utilized.

Chiseling around the footplate, may loosen the attachments. Fraeture through the mid-portion of the footplate along with severing the anterior erura (monopod lysis of Fowler) may be of value in producing mobilization. In cases of atrophic crura, elastie erura, or extensive footplate involvement, an ingenious method has been devised by Shea of connecting the incus to the footplate with a strut of polyethylene tubing. In eertain cases a stapedeetomy is done and a vein graft used to cover the oval window(7). A polyethylene strut is then connected from the incus to the graft. The sueeess of surgery varies slightly with the operations, but approximately 60 per cent of the patients are receiving adequate gains in hearing.

The Stapes Mobilization Proeedure requires only a few days hospitalization. It is a one to two hour proeedure and is performed under local anesthesia. This allows checking of the hearing at the time of surgery to confirm successful mobilization. The patient is returned to complete aetivity in three to four days, and the ear is healed completely in less than two weeks.

Complications are uneommon but may be serious(8). Labyrinthitis, facial nerve paralysis, and perforation of the membrana tympani have been reported. The latter is the most common, and can easily be handled at the time of surgery by sliding the meatal skin down to close the perforation, or placing a small full-thiekness graft over the perforation after denuding the margins of epithelium.

The operation occasionally restores the hearing to the previous bone conduction level (maximum cochlear reserve), but most operators consider the procedure sueeessful if a hearing level for air conduetion of better than 30 decibels in the speech frequencies remains two months after surgery.

Considering the meehanism of hearing loss due to otosclerosis, one would expect a higher percentage of reeurrence of fixations of the stapes after successful mobilization. It does appear that around 10 per cent of those who have passed the two month period may eventually re-ankylose, but revision with stapedectomy and vein graft or similar procedure seems to offer

these cases hope of permanent relief. It must be remembered, however, that this method of treating otosclerosis is new, and the long term results may reveal a greater number of post-operative fixations of the stapes than is now evident.

CASE REPORTS

1. R.P. Forty-three-year-old female. Deafness for eight years. Conductive hearing loss of 40 decibels with excellent bone conduction. Stapes mobilization by transincudal method of the left ear, June 6, 1957. Three months post operative hearing for air conduction in left ear in speech range 5 decibels below normal. Hearing has been maintained to date. (Fig. 1.)

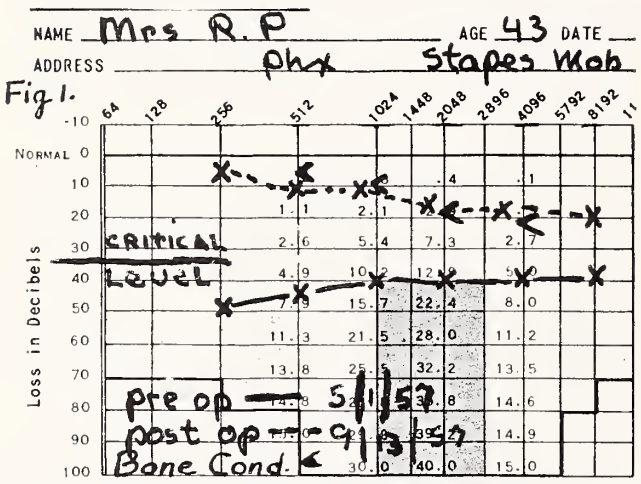


Fig. 1. Forty-three-year-old female. Stapes Mobilization of left ear performed June 1957. Hearing improved well above critical level for conversational voice. (Case 1.)

2. B.S. Forty-year-old male. Conductive hearing loss of 50 decibels with good bone conduction. Stapes mobilization of right ear May 28, 1956 with no improvement in hearing. On July 25, 1956, a fenestration operation was performed on the right ear with improvement in hearing to 25 decibels in speech range. Hearing has been maintained to date.

3. H.C. Forty-six-year-old female with hearing loss for sixteen years. Successful fenestration of the left ear performed May 16, 1956 with adequate gain for hearing conversational voice. Stapes mobilization of right ear on March 20, 1959. Severe vertigo following surgery with nausea and vomiting. Hospitalized for ten days before able to return home. Hearing gain was initially good, but symptoms of labyrinthitis persisted for almost six weeks after surgery. Recent audio reveals hearing below pre-operative level for both air and bone conduction.

4. B.P. Sixteen-year-old white female with hearing loss starting at eight years of age, and gradually increasing in severity until the time of surgery. Father had proven otosclerosis. Stapes mobilization performed June 30, 1958 with adequate gain in hearing which has remained satisfactory to date.

5. V.C. Fifty-two-year-old white male with hearing loss for twelve years associated with tinnitus. Family history of deafness. Has worn a hearing aid for six years but is dissatisfied with results, although he does hear better with aid. Bilateral hearing loss of conductive type with good air-bone averages 40 decibels in both ears. Stapes mobilization of right ear was attempted September 22, 1959, but due to firm fixation of footplate and elastic crura, intact mobilization of the stapes was impossible. The crura and head of the stapes were removed, and the footplate mobilized. A polythylene strut of No. 90 tubing was inserted between the incus and the stapedial footplate. Hearing has remained excellent two months post-operatively. (Fig. 2.)

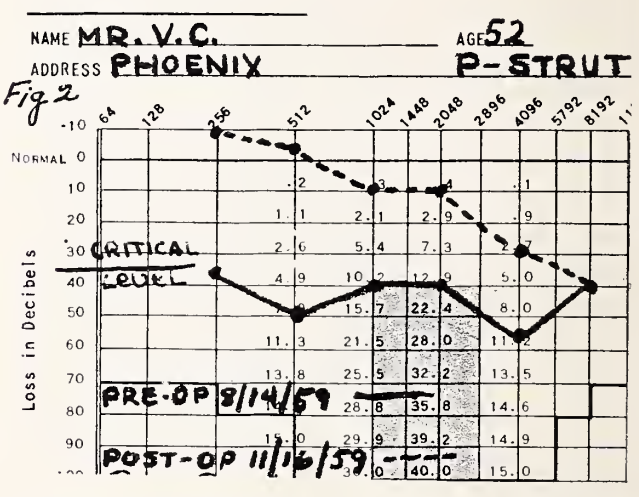


Fig. 2. Fifty-two-year-old male. Partial stapedectomy with polyethylene strut inserted between incus and mobilized footplate. (Case 5.)

6. A.B. Thirty-two-year-old male with a hearing loss of eleven years duration associated with tinnitus. Stapes mobilization performed on right ear on August 14, 1956. No improvement in hearing noted post operatively. No deterioration. One year later, hearing at pre-operative level.

7. C.Z. Sixty-one-year-old male with hearing loss of 75 decibels in speech range in both ears. Unsuccessful stapes mobilization attempted elsewhere on right ear. Left ear operated on August 13, 1958 and four months later hearing level of 35 decibels was present in left ear. Patient

only rarely uses his hearing aid, which works much better than before surgery. He usually can understand average conversational voice without a hearing aid. (Fig. 3.)

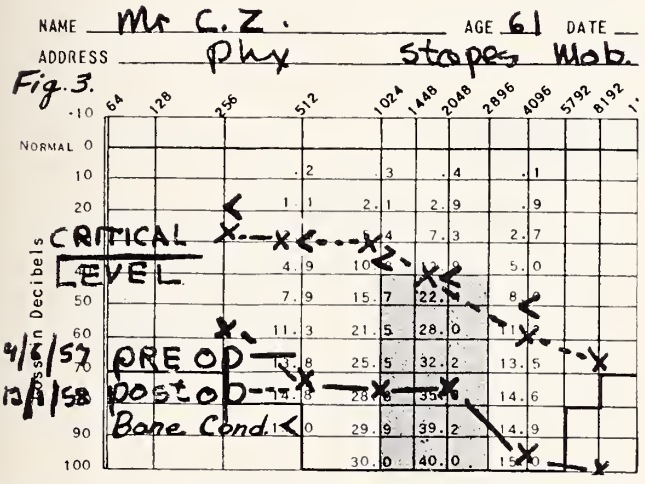


Fig. 3. Sixty-one-year-old male. Unsatisfactory hearing with hearing aid. After Stapes Mobilization hears conversational voice moderately well unaided. Excellent hearing with same hearing aid turned to lowest amplification (Case 7.)

SUMMARY

Patients with deafness due to otosclerosis can be improved by a number of surgical procedures, which are selected depending on the degree of the pathology present. By submitting to this type of surgery, the patient has a fair chance of gaining a great improvement in hearing. If the surgery is unsuccessful, and the bone conduction remains normal, the patient can resort to a hearing aid, or may have a good chance of improvement by means of fenestration surgery. The complications of surgery for otosclerosis are minimal, but occasionally serious.

Fig. 4

RESULTS

SATISFACTORY (30 Decibels or Better)	35 Cases
FAILURES	29
TOTAL CASES	64

Fig. 4. Results of sixty-four cases operated on from 1957 to 1959. This includes routine Stapes Mobilization and polyethylene strut insertion after stapedectomy.

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WHAT ARE CHANCES OF DISCHARGE FROM A MENTAL HOSPITAL?

During 1958, the resident hospital population continued to go down for the third straight year — a decrease of about 7,000 patients or approximately 1%. Although the number of admissions was higher in 1958 than in 1957, the number of patients discharged also increased. The reasons for the decrease in the hospital population may be attributed to new therapies and improved treatment programs.

Today, schizophrenic patients have a 60% chance of total or partial recovery provided prompt and adequate treatment is given. Forty years ago, less than 20% recovered. In New York state, for example, 6,427 were released during 1955 and three years later, in 1958, the number jumped to 8,970, or about a 40% increase.

The chances of partial or total recovery from involutional psychosis and manic-depressive psychosis are 65% and 75% respectively.

El Tratamiento Quirurgico De La Otoesclerosis Mediante La Movilizacion De La Base Del Estribo*

por

Douglas W. Frerichs, M.D.

INTRODUCCIÓN

El tratamiento quirúrgico de las varias formas de sorderas de conducción y la eradicación de las infecciones crónicas del oído ha progresado en forma muy notable en los últimos cinco años. Cuando el doctor Julius Lempert(1) hace veintión años perfeccionó la operación para corregir la sordera de conducción por otoesclerosis en una sola etapa, se inició una nueva usar en la cirugia otológica. La necesidad de usar mecanismos ópticos de aumento y el uso de barrenos de alta velocidad revolucionaron la técnica de esta cirugía en forma decisiva. Adapataciones subsiguientes a la técnica de Lempert han hecho posible la corrección de sorderas causadas por perforaciones del tambor, otitis adhesivas, otitis media y la mastoiditis crónicas.

Aunque la operación básica de fenestración de Lempert ha sido hasta cierto punto reemplazada por la manipulación directa del estribo las técnicas modernas para corregir las corderas de conducción no son más perfeccionamientos de las técnicas básicas de ese gran maestro.(2)

El doctor Samuel Rosen(3), discípulo de Lempert, adaptó una de las técnicas que se usaban originalmente para hacer la timpanosimpatectomiá. Mediante el uso de un colgajo timpano-meatal se perfeccionó un método para corregir el proceso otoesclerótico en la base del estribo.

PATOLOGÍA

La otoesclerosis es una anormalidad patológica ósea que ocurre en el hueso petroso. Los síntomas no se manifiestan a menos que los cambios óseos invadan la base del estribo, la cóclea, o la ventana redonda. Por lo general los síntomas se manifiestan cuando le proceso patológico penetra el margen anterior del pie del estribo. Al fijarse este huesecilo se obstruye la trasmisión de la vibración del tímpano a la cóclea. Cuando el estribo se fija en forma firme la pérdida auditiva puede alcanzar hasta unos 40 o 50 decibels. Esta pérdida es suficiente para que se dificulte el entendimiento de la voz en el volumen de conversación.

HISTORIAL CLINICO

Generalmente el paciente nota la dificultad entre los 20 y los 30 años de edad. A menudo se descubre que uno de padres o algún hermano padece del mismo mal. La sordera comienza en forma insidiosa y puede desarrollarse con rapidez

*Este trabajo fue presentado en la cuarta Asamblea Anual de la Asociation Medica de los Estados Unidos y Mexico el dia 6 de diciembre de 1959 en Las Vegas, Nevada.

en dos o tres años, o en forma paulatina en el transcurso de una década. La enfermedad predomina en la mujer y el embarazo a menudo acelera los síntomas. Muchos enfermos usan aparatos auxiliares auditivos al examinarse y auque algunos muestren disgusto con el instrumento la mayoría concede que el aumento del sonido mejora en forma notable su percepción auditiva.

EXAMEN

El paciente con otoesclerosis habla en tonos moderados porque su conducción ósea es normal y escucha su propia voz sin dificultad. El tambor tiene aspecto normal salvo en casos avanzados en los que se nota un aspecto rosado anormal en el cuadrante postero-superior. Este fenómeno se conoce como el signo de Schwartze y se debe al aumento en la vascuaridad del huesecillo otoeclerótico destrás del tambor. El tímpano se mueve libremente y las trompas de Eustaquio no se encuentran tapadas. La prueba de Rinne es negativa. (Al colocar un diapasón de frecuencias de 512 a 1024 alternando entre el meato y el proceso mastóideo se nota que la conducción ósea es mejor que la conducción por aire.) La enfermedad es generamente bilateral y al colocar un diapasón de 256 ciclos en la bóveda del craneo el sonido se refiere hacia el óido con la mayor pérdida auditiva. Si el examinante aumenta el volumen de su voz o si se usa algún instrumento alto-parlante el enfermo probablemente comprenda todo lo que se le dice. La curva audiométrica demuestra una linea recta horizontal para la conducción por aire mientras que la gráfica de la conducción ósea es casi normal. Las radiografiás de los procesos mastóideos son generalmente negativas pero un mastóideo otoesclerótico no contraindica la cirugía.

A veces es necesario hacer otras pruebas para seleccionar los candidatos para cirugía, pero esas pruebas adicionales requieren equipo otológico especial y personal técnico entrenado para interpretar los resultados.

TÉCNICAS OPERATORIAS

De acuerdo con la técnica del doctor Rosen se hace una incisión en el conducto auditivo externo entre 6 y 8 mm. en relación lateral al anillo del timpano, bajo anestesia local. La piel y la membrana timpánica se reflejan anteriormente en una sola pieza. Si es necesario se extrae el anillo óseo hasta exponer debidamente el estribo. Luego se hace un intento de movilizar el estribo sacudiendo ligeramente el yunque o el mismo estribo en su base. Dado el caso que el huescillo esté tan firmemente adherido que se dificulte su movilizacioñ en esta forma, entonces se puede recurrir a los métodos de Goodhill(4), Fowler,(5), House(6) y Shea(7). A veces se necesita cincelar alrededor de la base del huececillo a fin de debilitar sus asimientos. El método de Fowler de fracturar la base del estribo y cortar su extremo anterior es necesario de vez en cuando. En casos de atrofia o de elasticidad de los extremos del estribo se puede utilizar el método ingenioso de Shea por el cual se conecta el yunque al pie del estribo mediante una abrazadera de polietileno. En otros casos se hace una estapedectomía, se cubre la ventana ovalada con un injerto de vena y el injerto se conecta al yunque con una abrazadera de polietileno.

El éxito de la cirugía depende hasta cierto punto de la operación que se haga, pero aproximadamente un 60% de los pacientes operados tienan mejoramiento en la condición.

La movilización del estribo requiere solo unos días de hospitalización. La operación completa se hace con anestesia local y toma de una a dos horas incluyendo el tiempo que se usa para comprobar los resultados. El paciente puede regresar a su trabajo en un plazo de 3 a 4 días y el oído sana completamente en menos de dos semanas.

Las complicaciones son raras pero cuando ocurren suelen ser serias.(8). Entre otras puede ocurrir la laberintitis, la parálisis del nervio facial y, la más coriente de todas, la perforación de la membrana timpani. Esta última complicación se puede corregir facilmente durante la operación deslizando el revestimiento cuticular del meato hasta tapar la perforación, o mediante un injerto de espesor completo (full-thickness graft) colocado sobre la perforación después de extraer los márgenes del epitelio.

Esta operación a veces devuelve al oído el nivel previo de conducción ósea (reserva coclear máxima) pero la mayoría de los cirujanos consideran la operación como un éxito si se le devuelve al enfermo un nivel auditivo de conducción por aire de unos 30 decibels en las frecuencias de voz al cabo de dos meses después de la cirugía.

Dado el mecanismo causante de la deficiencia auditiva por otoesclerosis se anticiparía un porcentaje mayor de repetición del mal despues de la operación. Alrededor de un 10% de los en-

fermos tienen repetición de los síntomas al terminar el plazo de dos meses. En estos casos una revisión de la operación con estapedectomía y con injerto de vena produce mejora permanente. Sin embargo, hay que tener en cuenta que este campo es relativamente nuevo y que se necesita tiempo para hacer una evaluación imparcial y justa de los resultados permanentes.

CASOS CLÍNICOS

1—R.P. Mujer de 43 años de edad. Sordera de ocho años. Pérdida de audición de conducción de 40 decibels con conducción ósea excelente. Se le hizo la movilización por manipulación del yunque el 6 de junio de 1957. Tres meses después de la operación la conducción por aire en el oído izquierdo dentro de las frecuencias de conversación es de solo 5 decibels bajo normal. Hasta la fecha el resultado no ha cambiado.

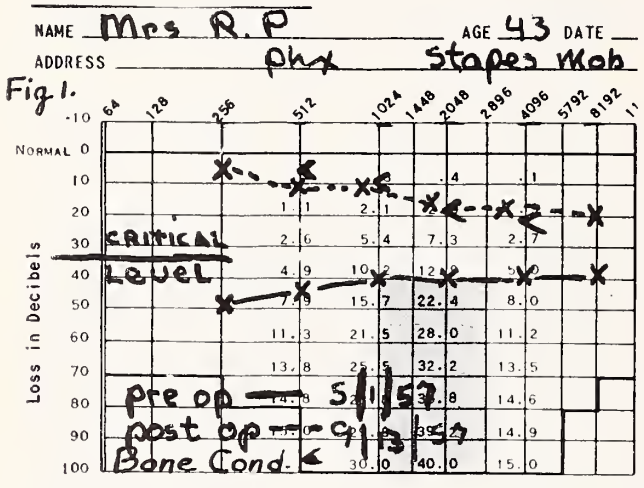


Fig. 1. Mujer de 43 anos de edad. Movilizacion del estribo en junio de 1957. El nivel auditivo aumento sobre el nivel critico en las frecuencias de conversacion. (Caso 1.)

2—B.S. Hombre de cuarenta años de edad. Pérdida de audición conductiva de 50 decibels con buena conducción osea. Se le hizo la movilización del estribo del oído derecho el 28 de mayo de 1956 sin mejora notable. El 25 de julio de 1956 se le hizo la fenestración con mejora de hasta 25 decibels en las frecuencias de conversación. Hasta la fecha ha mantenido la mejora.

3—H.C. Mujer de 46 años de edad con pérdida auditiva por espacio de 16 años. El dia 16 de mayo de 1956 se le hizo la fenestración del oído izquierdo mejorando su condición al punto donde puede oir la conversación sin dificultad. La movilización del estribo se le hizo el 20 de marzo de 1959. En el post-operatorio sufrió nauseas, vómitos y vértigo. Se hospitalizó por diez días. El mejoramiento en un pricipio fué satisfacorio pero los síntomas de laberintitis perisistieron por sies semanas después de la cirugía. Los audiogramas más recientes demuestran pérdida auditiva en conducción por aire y ósea hasta niveles más bajos aún que los pre-operatorios.

4—B.P. Jovencita de 16 años de edad con pérdida auditiva desde la edad de ocho años, empeorando progresivamente hasta la fecha de cirugía. El padre de la paciente sufría la otoesclerosis. Se le hizo la movilización del estribo el 30 de junio de 1958 con buenos resultados y hasta la fecha no ha habido desmejora.

5—V.C. Hombre de 52 años de edad con sordera de 12 años y con tínito. Historia de sordera en la familia. Ha usado un aparato auxiliar auditivo por 6 años pero nunca se sintió satisfecho con el resultado, aunque sí concede que oye mejor con el aparato. Tenía pérdida bilateral de tipo conductivo con buena conducción por aire, promediando unos 40 decibels en cada oído. Se intentó hacerle la movilización del oído derecho el 22 de noviembre de 1959 pero no se le pudo hacer una movilización intacta por motivo de estar los extremos elásticos y el huesecillo muy fijos. Se extrajeron los extremos y la cabeza del huesecillo y se movilizó la base. Una abrazadera de polietileno de calibre 90 se colocó entre el yunque y la base del estribo. El resultado ha sido excelente hasta dos meses después de a operación (Fig. 2.)

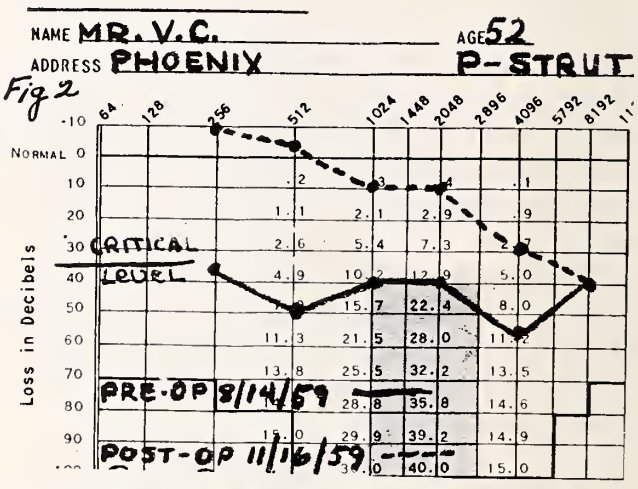


Fig. 2. Hombre de 52 anos de edad. Estapedectomia parcial con abrazadera de polietileno colocada entre el yunque y la base movilizada.

6—A.B. Hombre de 32 años de edad con sordera de 11 años y con tínito. Se le hizo la movilización del estribo derecho el 14 de agosto de 1956. No se notó mejoría post-operatoria pero tampoco se notó pérdida. Un año más tarde el oído ha vuelto al nivel de audición preopera-

torio.

7—C.Z. Hombre de 61 años de edad con pérdida auditiva de 75 decibels en las frecuencias de conversación en ambos oídos. Se le hizo una movilización anteriormente en el oído derecho sin mejora alguna. El 13 de agosto de 1958 le operamos el oído izquierdo y 4 meses más tarde mantenía un nivel auditivo de 35 decibels en este oído. El paciente usa el aparato auditivo auxiliar en muy raras ocasiones puesto que él ove bien en las frecuencias de conversación. Naturalmente el aparato le ayuda mucho más que antes de la cirugía. (Fig. 3)

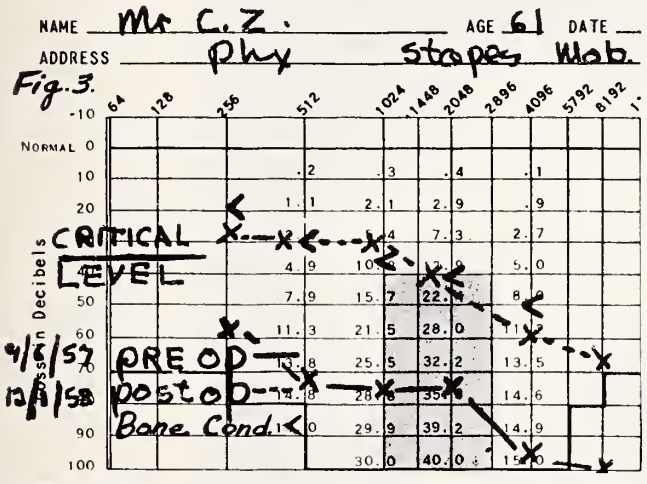


Fig. 3. Hombre de 61 anos. Nivel auditivo deficiente con el uso del aparato auxiliar. Despues de la movilizacion del estribo oye la voz de conversacion bastante bien sin el uso del instrumento. Con el aparato auxiliar tiene nivel auditivo excelente aun en las amplificaciones mas bajas.

RESUMEN

I a sordera causada por otoesclerosis se puede mejorar con varios procedimientos quirúricos. La operación indicada en cada caso depende del grado de patología que se encuentre. Con esta operación el enfermo puede mejorar su oído en forma notable. Si los resultados de la operación no son buenos y la conducción ósea permanece normal el enfermo puede hacer uso del aparato auxiliar auditivo, o en último caso puede someterse a la operación de fenestración. Las complicaciones de esta cirugía son mínimas aunque de vez en cuando pueden ser serias.

Fig. 4

RESULTADOS

SATISFACTORIOS (30 o mas decibels)	35 Casos
FRACASOS	29
TOTAL DE CASOS	64

Fig. 4. Los resultados de 64 casos operados entre 1957 y 1959. Este grupo incuye la movilizacion del estribo y el uso de abrazaderas de polietileno despues de la estapedectomia.

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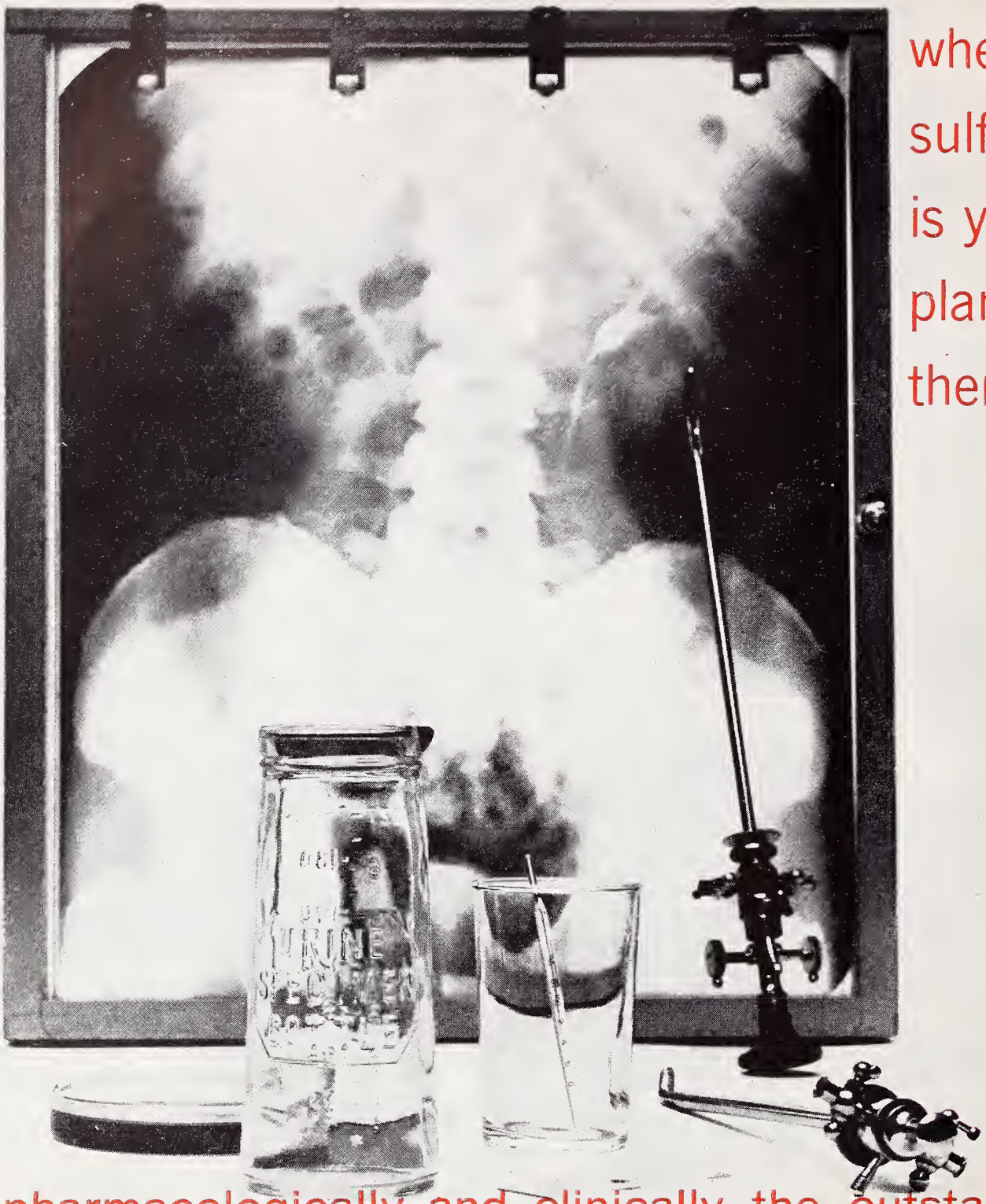
RISE IN TEEN-AGE VD POSES NEW CHALLENGE

The increase of venereal disease among teen-agers in many parts of the country has posed a new challenge to the nation's public health authorities. Details on the nature of the new hazard, its causes, and what is being done to meet it are contained in a new 25-cent pamphlet VENEREAL DISEASE, OLD PLAGUE — NEW CHALLENGE by T. Lefoy Richman, Associate Executive Director of the American Social Health Association, published by the Public Affairs Committee, 22 East 38th Street, New York.

Mr. Richman declares that "the teen-ager has come more prominently into the special VD problem group; sexual behavior is becoming more casual among many groups; and that the prostitute is being widely displaced as a spreader of venercal disease."

"Once essentially medical, the VD control effort now gives increased weight to education," he continues — pointing out that "there has emerged a new health profession, requiring specialized skills and aptitudes — VD Investigation."

The annual VD-infected population in the United States under 20 years of age is estimated at 200,000. But of these fewer than 50,000 are reported in any one year.



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Lederle

Beta Radiation Hazard

by

Edward L. Alpen, Ph.D.

WHAT is the nature of the radiation hazard from beta rays and what are the requirements which must be established to instrumentally assess this hazard? First, let us discuss the *nature* of the hazard and then from this we can formulate a requirement which must be set forth for instrumentation.

Experimental work at NRDL, and at other laboratories, has now clearly established that it is necessary to consider radiological damage to skin as a separate entity divorced from the deep effects of more penetrating radiation. The acute lesion is one associated primarily with the actively dividing tissue at the base of the epidermis. This layer, the stratum germinativum, is the only actively dividing tissue in skin. Of course, hair must be considered as a separate organ in these discussions, as radiation effects on hair are directed, as the result of radiation damage to the hair follicle. But, considering only the skin for the moment, it follows that only radiation energy deposited in the stratum germinativum is effective in producing acute damage. This information provides for us the necessary criteria for detector design. If the absorbing characteristics of the chamber window is made equivalent to the overlying tissue above the important basal layer, and if the chamber depth is shallow enough so that it stimulates the basal layer, the system is energy independent and detects only biologically significant radiation. An absorber of 7-10 mg/cm^2 and a chamber depth of 1-2 cm adequately satisfies these requirements.

Having indicated the technique whereby measurement is accomplished, it is necessary to outline the useful application of this data. Is a casualty to be expected from this exposure? The time of appearance, the severity of the lesion, and the numbers of individuals involved must be determined. Taking the latter problem first, it is so difficult to establish the fraction of exposed people that will develop lesions that a simplified approach must be used. As in deep organ effects, the dose-percent effect curve is so steep that one eventually admits that a step-function relationship must be assumed. That is to say, any group of people whose exposure exceeds some established value must be assumed to uniformly respond as predicted. The accompanying table outlines proposed values for these pre-set levels.

The latent time for development of the lesion has been demonstrated to be fairly independent of dose over very wide ranges. For example, it is safe to assume that skin breakdown will occur

Presented at the 2nd 12th Naval District Symposium on "Medical Problems of Modern Warfare and Civil Disaster" U. S. Naval Radiological Defense Laboratory, San Francisco 24, California.

ACUTE EFFECTS OF IONIZING RADIATION ON SKIN

Effect	Estimated Dose Required (EDR) in 1 week
No acute effects.	0-600 rad
Moderate early erythema.	600-2000 rad
Early erythema under 24 hours. Skin breakdown in 2 weeks.	2000-4000 rad
Severe erythema in 24 hours. Severe skin breakdown in 1-2 weeks.	4000-10,000 rad
Severe erythema in 4 hours. Severe skin breakdown in 1-2 weeks.	10,000-30,000 rad
Immediate skin blistering (less than 1 day).	30,000-100,000 rad

in 14-20 days after any exposure in excess of the indicated threshold and less than 10,000-15,000 rad. At exposures in excess of this the time may be as short as one week, and when the exposures reaches 50,000 rad and up, an obviously highly unlikely event, prompt damage will be seen.

Other Considerations:

Systemic effects. We have verified our earlier reported observations that generalized systemic response to beta radiation is directly related to the area of skin damaged rather than the exposure dose. Even over as wide a range as 5000 rad to 100,000 rad mortality from exposure of 30 percent of the body area is not significantly different. Generally the cause of death is, as might be expected, infection and severe dehydration. The lesions are painful and do not form eschars as do thermal burns.

Recovery and Fractationation:

We have evaluated the ability of skin to tolerate repeated exposures to beta rays and have verified and extended the observations of Quimby and others that recovery rates are extremely fast. In rat skin 400 rad on alternate days is tolerated without skin breakdown for total exposures as high as 12,000 rad.

Late Effects:

Irradiation of skin is certain to lead to serious late consequences in terms of tumor formation. In rat skin, high rates of tumor incidence within a year, both malignant and otherwise, is the result of exposure to only 600 rad. The tumors are multiple and recur after removal. It is interesting to observe that fractionation of the dose increases tumor incidence and decreases skin breakdown. This apparently is no more than a proof of the obvious fact that dead skin cannot produce tumors.

Can we summarize the operational importance of beta ray hazards? Yes, at least we can support with experimental observations the following statements:

A. Beta radiation is not a serious threat to survival and area of involvement is important parameter. Normal medical and surgical techniques would adequately manage these people.

B. Recovery rates are very fast and repeated exposures will probably be allowable on a low risk basis.

C. Late effects bear careful examination, but available human data would not seem to be totally in support of the animal data. The probable difference lies in the time required for tumor development after exposure.

When is measurement of beta dose-rate necessary?

The problem will be one of local exposure of important regions of the body with concomitant regional or functional incapacitation. Exposures will be important under three conditions:

1. One of restricted field geometry where gamma contribution is reduced.

2. Handling or operating contaminated vehicles or materials.

3. Removal of large contaminated objects from generally contaminated areas.

It must be remembered that it is possible to develop a very valuable guideline for personnel and equipment decontamination if it is remembered that there is no practical advantage in reducing skin dose from local or surface contamination below the point where the contribution to skin dose from the removable material is significantly less than that which is being received from the general environmental area, both beta and gamma. Basic to this remark is the generalization that gamma cancellation is not a necessary requirement in a beta survey meter which is designed for hazard control.

Medical Practice A Century Ago

An Address by

W. D. Snively, Jr., M.D.

(Vice President and Medical Director

Mead Johnson and Company

Evansville, Indiana)

IT certainly is a pleasure to address the Arizona State Academy of General Practice and to bring you the greetings of the Indiana State Academy, of which I happen to be the Chairman of the Scientific Exhibits Committee.

Some years ago a white explorer was conducting a safari in darkest Africa, and for four days he had driven his native bearers unmercifully. They covered perhaps twice as much mileage as usual on such a trip. But on the fifth day he got up all ready to go early in the morning, and the natives were all squatting on their haunches, and they refused to move. Well, he berated them and urged them but to no avail. And finally the leader spoke up and he said, "My men say that for the last four days they have traveled so rapidly and so far that they have left their souls behind. They are just going to sit here and wait until their souls catch up to their bodies."

Well, I think that frequently many of us, and particularly busy family physicians, would do well if they would pause a little bit and let their souls catch up with their bodies. And I also thing it's not a bad idea if we pause once in a while and let our history catch up with us, take a look at what has gone before in the field of history to see where we've been. Frequently if we do this we are much happier with our lot than we would otherwise have been.

Now I'm going to talk about medicine during the nineteenth century.

For many of us, mention of the colorful nineteenth century, the years from 1800 to 1900, brings forth visions of heartwarming Currier and Ives scenes — "Home to Thanksgiving," "A Home in the Country," "Skating in Central Park," scenes of hunting in the virgin forests or riding pell-mell across the broad prairies. It recalls wintertime scenes of drifting snow, sleigh bells, and groaning, festive tables.

We are prone to forget the fear, often the horror, that was the ever-present accompaniment of disease during that century. As we conjure up lovely pictures from the past, we choose not to recall the ailments, frequently fatal, that resulted from the primitive sanitary practices of that period and from the infectious disease that ravaged unchecked. We consign to merciful oblivion the awful mortality rate of newborn babies. We forget that Doctor John Herdman wrote in 1807, "It is no less astonishing than true, that more

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than a fourth part of the human race die in infancy — in their first year." During that century and during the uncounted centuries that preceded it, disease enjoyed a heyday.

The disease picture in the United States was strikingly different from what we see today. Ague and abscesses, buboes and blackwater fever, scrofula, scurvy and the strangling diphtheria daily confronted the doctor who practiced medicine during the 1800's. Diarrhea was so common that it was almost regarded as a normal event. It was called "summer complaint." Pneumonia was quite correctly regarded as the terrible "Captain of the Men of Death." Surgery was primitive in its techniques, savage in the agony it produced, and accompanied by an awesome mortality rate.

Nineteenth century physicians possessed a woefully inadequate fund of knowledge; their medicines were still more inadequate. Many of the doctors of that period were men of great learning for that day — men of high intelligence, of incredible devotion. Perhaps to most of them "death was lighter than a feather and duty heavier than a mountain." Yet their devoted efforts were in part futile, since the number of agents effective in treating disease was so small. Anti-infective drugs, anesthetics, sedatives, psychotherapeutic agents, vitamins, nutritional products, hormones, enzymes, analgesics, were either entirely lacking, dangerous or ineffective. The great gifts of the research programs of the pharmaceutical companies did not begin to arrive in numbers until well past the turn of the twentieth century.

In order to orient you in the medical scene of the nineteenth century, let us take a look at the practice of medicine a little past the middle of that century. When one desires to obtain an accurate living picture of the past, he will be helped greatly if he can somehow view that period from its own frame of reference in time. Hence, I am asking you to place yourself squarely in another man's boots — the boots of John B. Weever, who in the year 1858 had reached the ripe age of 22 years and was about to begin the practice of medicine in the Evansville area. John was the son of a physician, Doctor Charles S. Weever, who had served a preceptorship under another early Evansville physician, Doctor William Trafton. John received a preliminary education, and in 1855 began the study of medicine in his father's office. Later he continued his studies under the direction of the famous Doctor Samuel D. Gross. He entered the Jefferson Medical College in Philadelphia and was graduated in 1858. He took the long course, the four-month winter course. Then he returned to the Evansville area.

As John began practice in the year of our Lord 1858, it was just thirty-nine years since Doctor William Hornby, Jr., completed a long journey from the East and unpacked his saddlebags in the little town of Evansville. He proceeded to set up a pioneer practice nearby. Although he was handicapped by a limited medical education, he answered the calls of the afflicted and gave them the benefit of his medical knowledge and skill. His life was a hard one. Roads were poor or non-existent. Bridges were almost unknown. During high water, the streams had to be crossed in dugouts. Since the nearest drugstore was in Louisville, 125 miles away, Doctor Hornby carried his meager supply of remedies in his little black bag. He was busy from the start. There was no problem of building a practice! As William Faux wrote in his diary in 1819, "Many are dying in Evansville of a bilious disorder." Perhaps it was the hard life of the frontier doctor that caused the early death of Doctor Hornby in 1832.

The first Medical Society was founded in Evansville in 1845. The Society had a code of ethics which prescribed twenty rules for the guidance of physicians. One of them read, "It is the duty of every medical practitioner to treat his patients with steadiness, tenderness and humanity and to make due allowances for that mental weakness, which usually accompanies bodily disease. Secrecy and delicacy should be observed . . ." The seventh rule read, "Physicians should not visit their patients too frequently, lest seeing them oftener than necessary might produce unsteadiness in the treatment."

A number of rules dealt with the etiquette of consultation. The twentieth rule admonished, "Medical men should 'Remember the Sabbath day, to keep it holy;' and visits should, as far as consistent with professional engagements, be made either before, or after public worship, or during its intervals." The regulations concluded with a Scale of Medical Charges, most of which consisted of surgical operations, many of them major and all of them performed without benefit of anesthesia.

The Evansville Medical College was organized

in 1846. It continued its operations for ten years. In those days medical colleges were very different from what they are today. The instructors were always practicing physicians. Since they were usually busy, one can imagine that students frequently were forced to wait for the arrival of their instructor. Many of the early lecture rooms were amphitheaters with steep rising ledges on which were placed chairs for the students. There is reason to believe that students annoyed with late arriving professors sometimes became infuriated. In one such amphitheater, at ten minutes past the time appointed for a lecture, the students rose in a body and hurled their chairs down into the central pit.

Another fascinating but gruesome aspect of medical colleges of the early days was the problem of obtaining cadavers for dissecting. There was no provision for students to obtain cadavers legally, so they had to resort to grave robbing, or somewhat more euphemistically, body snatching. The practice of body snatching is well summarized by an epitaph which appeared on a gravestone in the East:

> "The body snatchers, they have come and made a snatch at me.
> It's very hard — them kind of men won't let a body be.
> Don't come to weep upon my grave and think that here I be,
> They haven't left an atom here of my anatomy."

The first hospital in Evansville coincided with the first medical school. It was built on the waterfront in 1856 at a cost of $73,000.

John Weever was about to begin the practice of medicine in the year 1858. It is reasonable to suppose that he might well have been interested in the advances of the previous century even as we are today. From the vantage point of 1959, the accomplishments of the century between 1758 and 1858 appear pitifully meager, but in the light of the total knowledge of medicine of 1858, these same advances must have been quite impressive to John Weever.

In 1758 the thermometer was introduced in clinical work. The first operation for localized appendicitis was performed in 1759. The first medical library was founded at the University of Pennsylvania Hospital in 1762 and in 1763 the great Linnaeus introduced scientific terminology for disease. In 1765 the Medical Department of the University of Pennsylvania was founded.

Many diseases were first described during that century: angina pectoris, drug addiction, chronic alcoholism, intestinal obstruction in babies, peritonitis, parasite diseases, whooping cough, nephritis, heart block, asthma, typhus, and typhoid fever.

In 1770 the first medical degree was conferred by King's College. The first American Pharmacopoeia was published in Philadelphia in 1778. In 1783 the professions of surgery and barbering were first separated in Europe.

During this same century, John Hunter made fundamental discoveries concerning the circulation of the blood. Samuel Brown vaccinated 700 people against smallpox in Lexington, Kentucky, in 1802. In 1804 Dalton outlined the atomic theory. Morphine was isolated in 1805. The stethoscope was perfected in 1816, and in 1825 potassium iodide was first used as a not-too-successful remedy for syphilis. In 1831 chloroform was discovered, although its use in anesthesia was delayed for many years. In 1839 Schwann published his cellular theory. Doctor S. D. Gross was giving his lectures on pathology in Cincinnati.

The great Doctor Daniel Drake lived in Cincinnati about this time. He was the outstanding physician of Mid-America during that century. He was also a great historian, geographer and writer. We may be sure that Doctor Daniel Drake visited the small village of Evansville during his many travels.

In 1840 Henle published his statement of the germ theory of communicable diseases. In that same year the Medical Department of Kemper College, the first medical school west of the Mississippi, was founded. In 1845 leukemia was first described.

As he looked back on the medical advances of the previous century, John Weever had good justification for believing that the profession of medicine was a progressive one. It probably seemed to him at that time that perhaps there wasn't too much left to be discovered.

We are fortunate in having an early notebook belonging to an Evansville physician who practiced in 1858. The book is written in a mixture of German and English and gives a fascinating picture of the diseases of those days and the drugs that were used to treat them. Some of the

therapy came amazingly close to the mark.

Take the disease scorbutus, or scurvy. Its treatment is listed under five headings: Dietetics, Astringents, Temperants, Tonics and Refrigerants. Under Dietetics we read, "Change of diet is the best: no animal salted food but acid fruits: citrons, lemons, oranges and green vegetables: pickles, potatoes, sauercrout, salad; cleanliness and pure air." In that paragraph is itemized the modern treatment of scurvy.

Under the heading of Astringents we see listed, "Mouth-washes of citric acid, of chlorate potash, or oximel, vinegar et water."

Under Temperants we see, "Acidulous drinks or fermented beverages: beers, cider, lemonade, oximelat; these are useful in the acute or hot scurvy."

Under Tonics we read, "In the chronic or cold scurvy: cinchona, quinine, sulphuric elixir and tincture of iron" are useful.

Under Refrigerants are recommended, "Cold affusions or tepid ablutions, cold mouth-washes and shower baths."

Other diseases for which we find detailed therapy include: insolation or sun-stroke, rubeola or measles, photophobia or intolerance to light, dyspepsia or difficult digestion, dysmenorrhea or menstrual colic, psychopathies, combustions or burns, polysarcia or adiposis, ophthalmia or inflamation of the eyes, otitis or earache.

As we go down the list of internal remedies, we see a surprising number that are used today: atropine, alcohol, ammonia, arsenic, belladonna, bismuth, bromine, cinchona, digitalis, ergot, iodine, morphine, opium, paregoric and quinine. These and many other medicaments were used by the physicians of a century ago and by many they were probably highly regarded. This was not the case, however, with Oliver Wendell Holmes, the physician-poet. He said in 1860:

> "Excluding opium, which the Creator, himself, seems to prescribe, and excluding wine, which is a food, and excluding the vapors which produce the miracle of anesthesia, I firmly believe that if the whole materia medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind and all the worse for the fishes."

If medical therapy of that day could be described as elementary, surgery would best be characterized as primitive. It consisted, for the most part, of wound surgery and was confined to the surface of the body. Surgery remained savagely primitive until the middle half of the nineteenth century because of lack of knowledge of anatomy, lack of a method for controlling hemorrhage, lack of anesthetics to deaden pain and absence of knowledge of infection and how to combat it. We have in our possession a manual of surgery by Cooper and Green published in the year 1839, from the library of Doctor William Trafton, the first Evansville physician. It speaks of one of the operations most frequently performed, that of amputation, and it says, "Much improved, however, as amputation has been, it is an operation at once terrible to bear, dreadful to behold and sometimes severe and fatal in the consequences which it itself produces."

There was one disease that must have intrigued an intellectual, curious person like John Weever. That mysterious ailment was milk sickness. Many a pioneer in Mid-America had reason to say with Abraham Lincoln's cousin, Dennis Hanks, "We war perplext by a disese cald milk sick," for milk sickness was a savage, pitiless disease that was dreaded. It was also called staggers, tires, swamp sickness and trembles. It afflicted man and beast alike. Between the salt lick and the village of Evansville, the ground was strewn with the bleached bones of cattle that had perished from this illness. In 1858 it caused half the deaths in DuBois County, Indiana. In Pigeon Creek, Indiana, in the autumn of 1818, it killed Nancy Hanks Lincoln (Abraham Lincoln's mother) as well as his great aunt and uncle within a period of six weeks. In 1839 it killed 50 of the 500 people living in Danville, Indiana. What would we think of a disease that struck down a comparable number of people in Evansville today — 12,500 souls in one year? A nearby village, which was one of Evansville's early rivals, was abandoned because of milk sickness. The impact that this disease had on the early history of Indiana is simply incalculable.

It was suspected that milk sickness was caused by drinking poisoned milk or cream. Just how the milk or cream became poisoned was not so clear. The symptoms of milk sickness included foul breath, dizziness, muscular pains, vomiting, intense thirst, rapid pulse, convulsions, and unconsciousness. Its victims took years to get well

if they did not die. The only treatment which was really successful was the use of brandy and honey.

In 1839 John Rowe, a farmer of Fayette County, Ohio, presented striking evidence that milk sickness was caused when cows ate white snakeroot. Whether or not Mr. Rowe's findings were published in the medical journals of that day, we do not know; we suspect they weren't. At any rate, his ideas were not recognized by physicians. It wasn't until 1917 that the facts were finally ascertained concerning milk sickness. Then it was established that Farmer Rowe was right. When cows ate white snakeroot, a strong poison, tremetol, was secreted into their milk. This poison was completely neutralized by drinking beverage alcohol. The brandy and honey therapy of our ancestors cannot be improved upon today.

But there were many other problems that plagued physicians in 1858. Cholera, which first struck in Evansville in 1832, was still an important cause of death. Pneumonia was universally dreaded; the mortality rate was about thirty per cent. In 1838 more than 50 people of a population of about 2,000 died of pneumonia in Evansville. A highly fatal form of erysipelas visited the Evansville area in 1842.

There was one thing that Doctor John Weever had to be thankful for. In 1858 doctors had the great blessing of anesthesia. Prior to 1852 anesthesia was not employed, and before its discovery even simple operations turned the operating room into a medieval torture chamber. The use of opium and alcohol did little more than subdue the level of the pain.

Another disease which threatened life was malaria. As the name indicates, it was believed to be caused by bad air. The little Anopheles mosquito was not suspected as the villain behind the malady. In an address given by the Honorable D. B. Kumbler to a graduating class from one of the Evansville medical schools, he described an epidemic of malaria:

> "On a beautiful morning last summer, there came up from the South the deadly breath of the plague. It came from morass and swamp, from canebrake and cotton field, from village and city.
>
> "Many flew from their homes upon which Death had set his mark and many others fell by their own firesides, strangled and shocked by the poisoned air. It touched the weak man and the strong. It touched the young man and old. It touched the low and the high, and they were consumed as by the fire of hell . . .
>
> "(The doctors) . . . went down into the valley and shadow of pestilence and met disease and death in all their horrid and sickening forms. Day and night they toiled and suffered without rest and without relief, ministering to the sick and comforting the dying until God shook the frosts out of the sky."

It was those selfsame frosts that stopped the depredations of the mosquito, although Judge Kumbler and the doctors of his day had no way of knowing that.

Now while medicine was certainly a respected profession in 1858, it was almost entirely an art with a little science mixed in. It was the tragedy of medicine that continued deep into the nineteenth century that too few facts were scientifically established to give a basis for effective treatment. Such treatment had to wait until much more could be discovered. The patients could not wait and they sickened and longed for physicans who could cure them and all too frequently they died. Patients wanted doctors who were sure of themselves and the doctors had to believe their treatments helped for their own happiness. The following was said about one of our early and respected Evansville physicians, Doctor William Howard Trafton:

> "He had great force and positiveness of character . . . his professional convictions were absolute."

Few of us would want a physician in this day whose professional convictions were absolute.

So self-confidence was a prime requisite for a successful practitioner of 1859. Woe to the doctor who used his eyes and his intelligence and saw that most of his remedies failed. Perhaps this was how the ponderous manner, the solemn dignity, the formalized behavior of the early physician came into being. He looked wise while he examined a tongue, he consulted a ponderous timepiece while taking the pulse — perhaps he pretended to be calculating. We should neither criticize nor ridicule the doctors of that day for their pompousness, for their dignity, for their provision of sympathy in lieu of science. All too frequently sympathy was all they had to offer their patients.

Just consider those days. Hospitals were not

in general use. People usually went to the hospital to die. It was regarded as a "court of last resort" in which the sentence was usually "death by disease." Death from disease was always just around the corner. William E. Wilson wrote in his charming book, *The Wabash:*

> "You lived with death intimately in those days. Young or old, you were spared none of its tedious and obscene drama. You sat with it all day, helplessly, wondering what it was and whence it had come. You ate with it only a few feet from your table. At night, you slept with it, hearing it fumble at the throat of the one you loved in the same room, in the same bed. You could never escape it, shut it out, or forget it for a single moment. You could neither glorify it nor pretend that it was not there. And when, at last, it had finished and gone, you lived on, in the same shameless intimacy, with what it left behind, until you did what you had to do and found yourself finally standing bareheaded above a mound of wet and yellow earth that you had dug yourself, taking your leave in silence and without a ceremony."

We can be sure that as John Weever studied the accomplishments of the men of medicine for the previous century; as he looked about him and beheld the physicians of his day (conscientious members of an honorable profession, doing their utmost to alleviate suffering and death), he must have felt that the practice of medicine was a fine calling, indeed.

Perhaps it is a blessing that he could not have put on the mantle of prophecy and looked ahead. For if he could have seen the shape of things to come he might have been woefully dissatisfied with his lot. But he was not dissatisfied with his lot and he made the most of it. He engaged in the practice of medicine for well over half a century and before he died in 1934, he was just four years short of the century mark himself.

In these few minutes I have tried to give you some small inkling of what the physician of 100 years ago had to face and what he had to work with. It has been better done and in fewer words by Doctor James Newton Matthews, of the Marion County Medical Society in our own Hoosier State. Doctor Matthews wrote the poem, *Ballade of the Busy Doctor,* which was read at a banquet of his county medical society in the year 1888. It presents a somber but perceptive view of the doctor's lot in a small Midwestern town during a nineteenth century winter. I am going to finish my lecture with this poem.

"When winter pipes in the poplar tree,
And soles are shod with the snow and sleet—
When sick-room doors close noiselessly,
And doctors hurry along the street;
When the bleak north winds at the gables beat,
And the flaky noon of the night is nigh,
And the reveller's laugh grows obsolete,
When Death, white Death, is a-driving by.

"When the cowering sinner crooks his knee
At the cradle side, in suppliance sweet,
And friends converse in a minor key,
And doctors hurry along the street;
When Croesus flies to his country seat,
And castaways in the garrets cry,
And in each house is a 'shape and a sheet,'
Then Death, white Death, is a-driving by.

"When the blast of the autumn blinds the bee,
And the long rains fall on the ruined wheat,
When a glimmer of green on the pools we see,
And doctors hurry along the street;
When every fellow we chance to meet
Has a fulvous glitter in either eye,
And a weary wobble in both his feet,
When Death, white Death, is a-driving by.

ENVOY

"When farmers ride at a furious heat,
And doctors hurry along the street,
With grave hearts, under a scowling sky,
Then Death, white Death, is a-driving by."

THE AMERICAN FOUNDATION FOR THE BLIND

The American Foundation for the Blind awarded its Certificate of Merit to the Association of American Railroads and the National Bus Traffic Association for making it possible for blind persons to take along a sighted companion free of charge on most railroads and buses.

Gastric Tumors

L. Henry Garland, M.D.*

Abstracts from the presentation by Dr. L. Henry Garland at the Seventh Annual Cancer Seminar, American Cancer Society, Arizona Division, January 22-24, 1959, Phoenix.

IN the diagnosis of gastric tumors, radiology, unfortunately, is still the most useful tool. I say unfortunately because it is a crude weapon. Obviously, a lesion has to be about 1 cm in diameter for the average radiologist to pick it up; and a lesion of such size, according to my pathologic friends, has as many as 200,000,000 cancer cells in it. The lesion therefore must have been present for many months, if not years, before it reached demonstrability.

Should all men over 45 have a stomach x-ray every year? Well, when this slide was made some years ago, the incidence of gastric cancer was about 17 per 100,000 per year. It has dropped since then. However, in persons over 50, the prevalence was about 100 per 100,000; it's dropped now to about 55 or so per 100,000 per annum. So you would have to x-ray this number over age 50 to catch this number of tumors, if you caught all of them, and we're not that good, of course. I doubt if we'd catch more than half of them under the best of circumstances. So you would have to x-ray, therefore, 100,000 each year, over age 50, to catch less than 50 tumors. Now the mortality rate of exploring and removing those would be something. It wouldn't be 0, but it would be some modest figure. The cure rate would be a somewhat modest figure. Doctor Kirklin used to say that to do a thorough x-ray survey job you should repeat the examination every three months. This would occupy not only all of the radiologists in the United States, but all of the surgeons as well, doing radiology.

*Clinical Professor of Radiology, Stanford University Medical School, San Francisco.

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*Knudsen, E. T., and Rolinson, G. N.: Lancet 2:1105 (Dec. 19) 1959.

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Arizona Medical Association Reports

The President's Page

A Platform for Medicine in Arizona

Lindsay E. Beaton, M.D.



Lindsay E. Beaton, M.D.

It has been increasingly remarked, and with unhappy relevance, that organized medicine most fails its responsibility in lacking definite plans and policies. Its leaders have seemed routinely to react with an automatic veto to every prospect of social change that might extend the fullness of medical discovery to all economic levels. Only recently, with suggestions for the care of the aged and for the rehabilitation of the handicapped, have American physicians come up with designs of their own. This reluctance to dare imaginative exploration is a denial of the traditions of both science and of this country. As James R. Killian, then special assistant to the President for science and technology, put it in an address to the American Association for the Advancement of Science, "We have forged ahead because we wanted things to change. We have wanted to look forward and not backward. The revolution of modern man — the revolution which has found its fullest expression here in the United States — lies essentially in this: it is the revolt against things as they are when there are ways of doing things better. It is a revolution against all the forces which hinder man in building a better life." In medicine an affirmative program is overdue, and it must be fashioned by those in the profession who acknowledge the existence of problems and have the will to pursue solutions. To go from the professor to the journalist, James Reston, writing last year in the New York Times on the subject of national goals, neatly summarized the issue in a sentence as meaningful for medicine as for government. "It is the ancient conflict, beyond partisan politics, between the pessimists and the optimists, between those who want to concentrate on stopping bad things and those who want to concentrate on positive new programs, between those who still have the zest and audacity to pioneer and those who are weary and find it more comfortable to defend the familiar."

It is not presumed in this place to offer any final set of proposals. Rather it is intended to point out selected socio-medical areas in which Arizona doctors should develop specific stands. Eventually, perhaps over a matter of several months or a year or two, the maturation of such a platform would allow the public to know what medicine believes on the major

social questions that affect health and what plans it has for contributions to their resolution. This is an admittedly ambitious and exacting project. It is conceded first of all that time will be needed to set forth a coherent program to cover all of the situations in which medicine has a legitimate concern. It is acknowledged that there will be dispute and doubt about the extent to which physicians should intervene in the public business. And finally we will have to be alert against the tendency for stated positions to become dogma and to be defended by cant. In true scientific fashion every stand of a medical society should be only a working hypothesis, to being refined or discarded in the light of the best opinion of the particular time, subject to being refined, or discarded in the light of fresh facts.

It is not known that any other state medical association has ever undertaken to formulate an integrated platform of this sort. This should not deter Arizona. A small state like ours can perhaps practically serve as a laboratory for experiment in socio-medical ideas and could even institute pilot studies for the instruction of the country as a whole. Furthermore, it seems important that we map out our own schemes and not merely copy the directives that filter down from national bodies. Not only do we have our own special problems, but we feel, without arrogance, that we are as capable as are any of our colleagues in other states. Present proof of this confident statement can be adduced in the "Arizona Plan" for contributions by pharmacists to A.M.E.F. or the unique medico-legal panel of the Pima County Medical Society for the prehearing of malpractice claims.

As one looks to the means by which such a program can be developed, first of all one hopes for discussion in the editorial columns of *Arizona Medicine*, which would not only clarify issues but would stimulate reader contribution. Beyond this open forum it seems most reasonable and most feasible to depend primarily on the committees of the association. Various matters, to be mentioned below, will be referred by the Board of Directors to the standing committees for study and for recommendations as to policy and means of implementation. At its last meeting, the Board of Directors added another apparatus to the armamentarium with which Arizona's physicians can attack this inquiry. In the belief that the Arizona Medical Association is now a major corporation and should function with all of the tools of corporate management, the Board has appointed an Executive Committee. This Executive Committee will act to dispose of routine matters for the Board and to develop alternative policy positions on pressing questions before Board meetings, and in addition has been directed to initiate the platform here under discussion. It will utilize information and advice from our committees, and from all other sources. Through this procedure it is conceived that it will be possible for the Association to establish a consistent and impelling program that will explain the positions of Arizona's doctors on all questions, social or scientific, that affect the health of the people.

However, while the mechanism of the preparation of a platform has been described in terms of committee action, obviously this is an assignment that cannot be fulfilled by committees and the Board alone. To be rounded and representative the final formal program must accurately reflect the views of the members of this Association. Furthermore, the specific planks will each be best hewn out by single individuals who will put their minds to expressing a policy on a given point, whether these be committee chairmen or members, editorialists in *Arizona Medicine*, or interested members of the Association with special conviction and competence. A statement by George Kennan in *Daedalus* in 1958 puts our point very succinctly. "Thought is, by its very nature, an individual process, not a collective one; to be useful, thought must be communicated; to be communicated it must pass through the filter of a single mind that puts it into words; it cannot, therefore, be greater than what a single mind can comprehend and state. There is thus no such thing as collective judgment; there is only individual judgment, enriched and refined on occasion by the advice of others, and commanding, in certain cases, the approval of a wider body." It is therefore hoped that many members will make known to the officers of the Association, to the District Directors, or to committee chairmen their own thoughts. They may wish to comment on some of the topics listed in this article, or they may very well wish to suggest others. The planning phase of this program has begun. There is no time like the present for any member to draft his own ideas for the guidance and sanction of his colleagues.

There are several urgent questions for which

answers should be forthcoming in the fairly near future. Perhaps the foremost is an inquiry into the necessity of rewriting the Medical Practice Act. Both evaluation and possible subsequent composition of a new act would, of course, be carried out in concert with the State Board of Medical Examiners. However, the doctors of Arizona have a vital stake, for the profession, and more particularly for their patients, in a modern and effective Medical Practice Act that will secure the proper number of skilled and responsible practitioners to meet the needs of a mounting population. Other issues on which the physicians of this state might prepare and recommend legislation are the hitherto controversial ones of vivisection, milk pasteurization, and contraception and sterilization.

Among affirmative undertakings that we might ready and propose are an Arizona plan for the care of medically indigent, whether aged or other. None of us, I think is satisfied with the schemes that have been offered to date. Hospitalization needs, present and particularly in the future, for rural areas even more than urban, require definitive programming. This in turn raises the concept of a plan for rural medicine as a whole in Arizona, one of the few remaining states in which true rural medicine is practiced. A schedule of hospital construction of necessity brings up the puzzle of relationships with osteopaths in open hospitals supported by governmental funds. It is not beyond the bounds of credibility that the Arizona Medical Association might be the first to devise the compromise that will allow the gradual entrance of osteopathic physicians into the discipline of scientific medicine, certainly one of the pressing aims of medicine and a quick way of providing more accepted and authenticated physicians for the country. We can, without being presumptuous, enter more actively into the guidance of our State Health Department and the opening for such leadership should be made now. The Association should also be ready to appoint advisory groups to the various state health agencies, for example the Children's Colony at Randolph, where a consultant board of pediatricians, neurologists and psychiatrists is obviously called for.

Finally, there are challenges which are of acute pertinence to the physician, in addition to their public consequence. We should be doing our utmost to encourage the enlistment of young men and women into the profession, to counteract the admitted decline in the number and caliber of applicants for medical schools. The program on medical careers begun over a year ago by the immediate past president of this Association, Dr. Dermont Melick, must be implemented as an ongoing one. Finally, a continuing investigation of fee schedules is mandatory. The ultimate decision about fee schedules in our state is one that will affect us personally, but will also be vital to patients of limited or moderate means.

As the items in such a platform are perfected it should not be difficult to achieve wide circulation to the membership of the Association. Some would require approval of the Board of Directors or actual ratification by the House of Delegates. Others would probably be formal statements for public education of stands to which there would obviously be little professional objection, and they could be published in *Arizona Medicine* and communicated by letter to the component County Societies. More difficult would be the accomplishment of the aims and goals of the program through lay acceptance. Certainly the Association must anticipate sponsorship of legislation, as well as aggressive intercession for or against bills proposed by others. The Association will have to be willing that its spokesmen play an increasingly enterprising role before the various committees of the legislature, in order to make clear to them the politices of organized medicine and the reasons for them. Our positions will be more acceptable in the public view when we have an affirmative program to present, of such a nature as to make unmistakable the fact that our official stands are designed for the welfare of the sick and not for personal and selfish gain.

When such a platform has been proclaimed, the Public Relations Committee of the Association will have a more crucial role than it ever has had in the past. It will bear the burden of preparing releases on approved policies of the Association, to see that they are published in the popular press. The honest point would be made clear that we are not beating a private drum, but that, as the stewards of the sick and the guardians of the well, it is our duty to let our fellow citizens be fully aware of measures we believe essential. Press conferences, special publications, and talks before community groups could conceivably all be parts of the Public

Relations Committee's schedule. The Association will only insist that the committee provide candid and explicit information about medicine's opinions and that it never descend to concealment or evasion, that it never dilute or weaken the presentation of a purely professional medical program by the interpolation of political or economic special pleading.

Physicians are not like politicians, who every four years go through the national ritual of preparing a platform, to which they can point with partisan pride and which they can then neglect in the following 48 months of leisure. When we have hammered out our platform, we shall expect it to be a set of purposes we can live by, which we will try hard to put into reality, and by which we hope that all our fellow citizens will know our devotion to the public health.

BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Wednesday, May 4, 1960, Leslie B. Smith, M.D. (Vice President), Chairman, presiding.

MEMBERSHIP CLASSIFICATIONS CHANGES

Maricopa County Medical Society

It was regularly moved and unanimously carried that the Board of Directors approve Associate membership, dues exempt, account residency training in the field of psychiatry (for a term of two years commencing April, 1959), for Raymond A. Huger, M.D., retroactive to December 31, 1959.

It was regularly moved and unanimously carried that the Board of Directors approve Associate membership, dues exempt, account retirement, for Hilary D. Ketcherside, M.D., retroactive to December 31, 1959.

Pima County Medical Society

It was regularly moved and unanimously carried that the Board of Directors approve Associate membership, dues exempt, account retirement, for George O. Hartman, M.D., retroactive to December 31, 1959.

Membership Report — Dues Delinquents

It was reported that twenty-seven (27) members of this Association were delinquent in the payment of their 1960 dues, as of April 1, 1960.

BENEVOLENT AND LOAN FUND COMMITTEE

The Board of Directors in meeting held February 14, 1960, following discussion referable to the propriety and legality of requiring a life insurance policy in a sum in excess of the actual amount of the student loan, associate with the program under the direction of the Benevolent and Loan Fund Committee, determined that the subject be referred back to said Committee, with counsel's comments thereon, with the request that the Chairman report back to this Board thereon at this meeting. Ernest A. Born, M.D., Chairman of the Committee, advises that unless the Board of Directors wishes to modify its previous directive requiring term life insurance in the sum of $6,000.00 to secure a student loan, the Committee has but to follow such instruction, and it has no recommendation for change of such directive at this time.

The report of Doctor Born was accepted.

HISTORY AND OBITUARIES COMMITTEE

Morris Fishbein, Contributing Editor, "Postgraduate Medicine," by letter dated December 28, 1959, reports proposal to publish in each issue of the publication a portrait and biography of the outstanding name in the history of medicine in each of the fifty states. The decision has been made to use only the names of physicians who are no longer living. The aid and suggestions of the Association to carry out the development of such feature having medical-historical value is enlisted.

This request was referred to the History and Obituaries Committee for consideration and recommendation. By letter dated February 24, 1960, received from Louis G. Jekel, M.D., Chairman, it proposed the name of Alexander M. Tuthill, M.D., of Phoenix.

It was moved, seconded and unanimously carried that this Board accept the recommendation of this Committee.

MEDICAL ECONOMICS COMMITTEE

Subcommittee on Fee and Contractual Medicine

For the record, the report of the subcommittee on Fee and Contractual Medicine, promulgated in meeting held February 21, 1960, referable to the subject of a relative value fee schedule, was circulated among the members of the Board of Directors of this Association through the mail, seeking direction as pertains to recommendations contained therein. It was the majority opinion of the members of the Board (15 votes being cast in the "affirmative" and 5 "not voting"), that this subcommittee prepare a resolu-

tion in accord with its recommendations contained in report submitted, for submission to the House of Delegates at its annual meeting, provided, of course, that the subcommittee still holds its position as a majority opinion. It was pointed out that such resolution shall in no way carry any implication that it has been approved or even discussed by the Board of Directors as it has not had occasion to do so.

It was moved by Doctor Singer and seconded by Doctor Tuveson that the subcommittee on Fee and Contractual Medicine ask for an expression from this Board as to the advisability of withdrawing the resolution for further study. The motion was declared adopted, 17 votes being cast in the affirmative and 3 votes being cast in the negative.

Received by the Board of Directors was a letter dated April 22, 1960, presented by Otis Barry Miller, M.D. of Tucson, President of the Arizona Dermatology Society, advising that the dermatologists have formulated a suggestive fee schedule in order that some standardization may be secured, listing its suggestions in the event a relative value fee schedule is adopted by the House of Delegates at this time.

It was reported that a letter dated April 29, 1960 of Edgar F. Mauer, M.D. of Los Angeles, California, addressed to the President, Dermont W. Melick, M.D., was received in the matter of experience in California following the adoption of the relative value study by the Council of the California Medical Association. Copies were previously distributed among the officers and committee chairmen, including Doctor Hamer, who is Chairman of the Reference Committee on Resolutions.

Received was a letter dated March 7, 1960, signed by David R. Long, M.D., Secretary, Physicians and Surgeons Forum (Phoenix) advising that, at a regular meeting held March 2, 1960, a resolution was adopted by that group declaring: "If a fee schedule is adopted by The Arizona Medieal Association, this organization, the Physicians and Surgeons Forum of Phoenix, Arizona, go on record for support of a Relative Value Fee Schedule, with there being established a specific relationship between this established 'unit' and the Cost of Living Index."

Subcommittee on Medicare

By unanimous action of the Board of Directors, the following supplemental agreements presented by the Contracting Officer of the Office for Dependents' Medical care, associate with the Medicare Contract No. DA-49-007-MD-806, were authorized executed in behalf of this Association, following review and recommendation of the Fiscal Administrator, the changes involving operational procedure:

I — Supplemental Agreement Execution. Annex I — Antepartum Care (Urinalyses — Maternity Cases)

II — Supplemental Agreement Execution. Annex I — Joint Directive DD1251 Change: "Medicare Permit" to "Non-availability Statement"

III — Supplemental Agreement Execution. Annex I — Schedule — Articles I and II — Appendix B — Financial Accounting.

PROFESSIONAL COMMITTEE

Subcommittee on Aging

The President, Dermont W. Melick, M.D., reported the interim appointment of Jesse D. Hamer, M.D. (Phoenix) as a member of the Professional Committee for the remainder of the fiscal year, assigned as Chairman of the subcommittee on Aging. Doctor Hamer has accepted the assignment.

It was regularly moved, seconded and unanimously carried that the appointment of Doctor Hamer by the President by confirmed.

Arizona Division of Vocational Rehabilitation

Presented and read was a letter dated November 23, 1959, addressed to the President of the Association by Palmer Dysart, M.D., State Medical Consultant, Arizona Division of Vocational Rehabilitation, referable to participation of the Division in cardiac surgery. This Association is requested to be a certifying body of qualified surgeons in the field of heart surgery.

It was moved, seconded and unanimously carried that this matter be referred to the Professional Committee for review and report back to this Board.

PROFESSIONAL LIAISON COMMITTEE

Subcommittee on Governmental Medical Staffs

Letters were received from Senators Goldwater and Hayden, also Representatives Rhodes and Udall, referable to hospital and medical care being rendered civilian civil service employees and their dependents through military hospital facilities and Army medical officers of the Navajo Ordnance Depot in Bellemont, Arizona. A detailed report thereon contained in letter dated March 22, 1960, received from T. J.

Hartford, Major General, MC, Acting, the Surgeon General, Department of the Army, was likewise received, copies of which were previously forwarded to all interested parties of the Association.

The Board determined to file the report.

Subcommittee on Public Health

It was reported that Paul Fannin, Governor of the State of Arizona, appointed E. Henry Running, M.D. (Phoenix) a member of the Arizona State Board of Health, Doctor Running being a nominee of this Association for the position.

Subcommittee on Schools

It was reported that Noel G. Smith, M.D., Chairman of the subcommittee on Schools of the Professional Liaison Committee, would like this Board of Directors to authorize his committee to explore a plan for the medical care of school children, particularly those in families of low income and/or indigent, which will include participation of the private practitioner. When a plan is formulated, it will be presented to the Board of Directors for approval.

It was moved, seconded and unanimously carried that this subject follow normal protocol, and go through routine committee channels for approval.

Subcommittee on Woman's Auxiliary

Doctor Beaton reported that he wishes at this time to defer further discussion on the action of the Board of Directors in meeting held February 14, 1960, dealing with the student nurse loan fund program and inclusion of students in paramedical fields, the latter not being approved by this Board.

Mrs. Robert Cummings, President-elect of the Woman's Auxiliary of The Arizona Medical Association, by letter dated April 13, 1960, submitted the proposed 1960-61 program of the group. Its Board of Directors authorized request for a grant of at least 1,000.00 to underwrite the proposed program.

It was moved, seconded and unanimously carried that the budget request of $1,000.00 be approved.

PUBLIC RELATIONS COMMITTEE

Ernest E. Snyder, Director, Central Arizona Regional Science Fair, by letter dated March 17, 1960, acknowledged the generous contribution of this Association toward the support of the 1960 Science Fair of the Central Arizona Region. The Administrative Council and the area Science teachers and pupils expressed their appreciation for the interest shown in this worthy endeavor.

It was reported that a sum of $50.00 was authorized paid to each of the Central, Northern and Southern Divisions (Arizona Regional Science Fair). The Northern Division returned the contribution, finding itself not in position to participate in the activity in 1960.

PUBLISHING COMMITTEE

MacDonald Wood, M.D., of Phoenix, by letter dated March 8, 1960, reported four reprints of scientific articles, unsolicited, received from William G. Schultz, M.D., Tucson, raising the question of "ethics" in such distribution, if the intent is to solicit patients directly or indirectly or to attempt to bring undue attention to the author. It was reported that on investigation Doctor Shultz advises these reprints were forwarded to most of the doctors in the State, primarily for the interest of those who have been confronted with a case(s) of "exstrophy."

It was moved, seconded and carried by a show of hands that the Board of Directors approve the distribution of reprints, if it so pleases the author, to members of the society, but that we not permit the use of our addressograph plates for this purpose.

OLD BUSINESS

Community Service Award —
A. H. Robins Company, Inc.

The A. H. Robins Company, Inc., of Richmond, Virginia, by letter dated January 27, 1960, sought the reactions of this Association to its proposal that a community service award for physicians be established, similar to a program previously inaugurated making similar awards to pharmacists, giving them recognition for the sacrifice and time given by them to their communities through civic activities. It is the feeling that in these days of threats on socialized medicine and with the general widespread and unfounded complaints against the cost of drugs and medical care, all positive factors in behalf of the members of the medical team should be put before the public. Should such program be voted, the Robins company would, of course, work with the State Association in obtaining publicity in the home-town newspapers for the award ceremony and in suitable journals. The project would be treated in a most dignified

manner on an ethical basis.

It was moved, seconded, that a letter be directed to the A. H. Robins Company, Inc., encouraging the establishment of such program of physicians' community service awards, cooperating through our Public Relations Committee.

The motion was declared adopted, 19 votes being cast in the affairmative and one vote being cast in the negative.

California Emergency Treatment Statute

Mr. Edward Jacobson, counsel, briefly reviewed his report dealing with the California statute referable to emergency care at the scene of an emergency, exempting liability for any civil damages as a result of any acts or omissions by any person licensed under Section 2144 rendering such emergency care.

It was seconded and unanimously carried that this matter be referred to the proper committee (plus the advice of our legal counsel), the comtitee to be determined by the President.

California Morbidity and Mortality Secrecy Study Statute

For the information of the Board, Mr. Edward Jacobson, counsel, reviewed the California Bill AB.595 referable to granting secrecy to morbidity and mortality studies which became law in that State in September, 1959, occasioned by the question of Doctor Leslie Smith as to whether or not Arizona doctors had similar protection.

It was moved by Doctor Yount, seconded by Doctor Young and unanimously carried that the Public Relations Committee be instructed to formulate some plan of indoctrination of the public regarding the medical profession on a paid advertising basis.

Holbrook Tribune-News AMA Articles — Publication

Presented and read was a letter dated February 24, 1960, received from V. P. Richards, publisher, Holbrook Tribune-News, unfavorable to the publication of articles prepared by AMA, dealing with "the nature of tomorrow's challenges to the medical profession and how these challenges affect today's patient".

AMA Survey — Treatment of Mental Diseases as Practice of Medicine

Received from the Law Division of the American Medical Association under date of March, 1960, was a report of survey of State Medical Practice Acts relating to the question of whether definitions of "Practice of Medicine" in state medical licensure laws are broad enough to include the diagnosis and treatment of mental and emotional disorders.

It was moved, seconded and unanimously carried that this subject be referred to the Legislative Committee for study and report.

Doctors' Fees — Nester Roos, Ph.D.

Doctor Melick reviewed his actions following address by Nester Roos, Ph.D. of the University of Arizona Business Administration Faculty, charging that doctors are doubling their bills on health insurance-covered patients, thus skyrocketing insurance premiums to the public. Many of his comments were not based on fact, disclosed by investigation.

Charles A. DeLeeuw, President of the Arizona Association of Life Underwriters, Inc., by letter dated April 21, 1960, commented upon the articles of Doctor Roos as appeared in the Arizona Republic and Phoenix Gazette, as well as an editorial dated April 8, 1960, appearing in the Arizona Daily Sun, suggesting the appointment of a joint committee to bring in closer harmony the activities of the medical profession and the insurance carriers.

It was directed that the report and correspondence be received and filed.

Arizona Chiropody Association — Legislation

Howard B. Seyfert, Jr., D.S.C., Chairman, Legislative Committee of the Arizona Chiropody Association, by letter dated April 8, 1960, requested a report setting forth the objections of this Association to legislation proposed during the last regular session of the 24th Legislature by this group dealing with recognition of claims by health and accident insurance companies, submitted by chiropodists in the State of Arizona. Counsel's report contained in letter dated February 10, 1960, was presented and read.

It was moved, seconded and unanimously carried that a summary of the report of counsel's views be forwarded to the Arizona Chiropody Association.

Pan American Underwriters — Los Angeles Continental Casualty Company

A joint letter, signed by A. Ortiz, M.D. and Carlos V. Greth, M.D., dated April 14, 1960, was presented and read, requesting an investigation of policies of the Pan American Underwriters of Los Angeles, representing Continental Casualty Company, associate with the rendering of professional services by the doctors in ques-

tion covering Mexican contracted workers engaged in agricultural work in the State of Arizona. Specifically, the complaint against the company is its refusal to pay fees owed for services rendered during the past five or six months. It is the belief that the insurance carrier(s) wishes only to deal with physicians of its choice and have failed to consult with Doctors Ortiz and Greth to resolve any differences, real or imaginative.

It was moved, seconded and unanimously carried that this complaint be referred to the Fee and Contractual Medicine Committee for review and report.

National Group Annuity Program — AMA Group Disability Insurance Program

F.J.L. Blasingame, M.D., Executive Vice President, American Medical Association, by letter dated April 18, 1960, sought information dealing with "National Group Annuity Program" and "AMA Group Disability Insurance Program" pertinent to the action of the House of Delegates in June and December, 1959. A questionnaire was submitted inquiring into the advantages and disadvantages of a national group annuity program for physicians under the auspices of AMA. Doctor Blasingame by telegram dated April 30, 1960, states that unless informed otherwise prior to May 6, or receipt by that date of completed questionnaires concerning group and disability programs, "it will be interpreted you (this Association) do not approve sponsorship of either program as an appropriate AMA activity".

It was moved, seconded and unanimously carried that Doctor Blasingame be informed this Association has the matter under advisement and it should not be concluded at this time that it is either for or against the sponsorship of such program; and that the matter be referred to the Insurance Planning and Investigation subcommittee of the Medical Economic Committee for investigation and report.

FINANCIAL

1959-60 *Financial Report*

Doctor Young presented the Treasurer's report covering the fiscal year 1959-60.

1960-61 *Budget of Appropriations*

Doctor Young presented his proposed budget of appropriations for the year 1960-61 (April 1, 1960 to March 31, 1961), including certain recommendations:

RECOMMENDATIONS:

1. That the Association dues for Active Members for 1961 be set at $70.00. This will include a $10.00 per member contribution to AMEF.

2. That consideration be given to a By-Laws Amendment which will relieve the Treasurer from the onerous task of receiving and depositing all the small receipts of the Journel. The Journal business manager could be empowered to set up a separate accounting system, bank account, etc.

Reviewed by the Treasurer and Darwin W. Neubauer, M.D., Editor-in-Chief, was the proposed budget for the fiscal year 1960-61 relating to Arizona Medicine Journal publication.

It was moved, seconded and unanimously carried that the budget presented by Doctor Neubauer be approved.

It was moved, seconded and unanimously carried that the Treasurer's report for the fiscal year 1959-60, concluded, be accepted and that the budget of appropriations for the fiscal year 1960-61 be approved, including the Treasurer's recommendations.

Regarding recommendation No. 2 of the Treasurer, the Board makes note that to carry out such recommendation it will be necessary to seek the review and recommendation of the Articles of Incorporation and By-Laws Committee.

Doctor Yount further presented the report of audit dated May 3, 1960, received from R. S. Condit, C.P.A. of Prescott, Arizona, covering the fiscal year April 1, 1959 to March 31, 1960.

It was regularly moved, seconded and unanimously carried that the certified audit presented by R. S. Condit, C.P.A., under date of March 31, 1960, be accepted.

EXECUTIVE SESSION

The Board of Directors went into Executive Session at this point in the meeting, the following actions resulting therefrom:

It was moved by Doctor Hileman, seconded by Doctor Manning and unanimously carried that the salaries of the Executive Secretary and Assistant Executive Secretary be raised as follows: Robert Carpenter, $50.00 monthly; Paul R. Boykin, $100.00 monthly (or the equivalent in fringe benefits, if desired, in either instance); and that the allowance for mileage be raised to 10 cents per mile. The Treasurer was directed to make provision therefor in the 1960-61 budget.

COMMUNICATIONS

Idaho State Medical Association
H.R. 4700 — Forand Bill

The House of Delegates of the Idaho State Medical Association in meeting held January 29th and 30, 1960, adopted a resolution opposing the Federal purchase of hospitalization, nursing home care or medical care for OASDI beneficiaries, either directly, as in H.R. 4700 (the Forand Bill), or indirectly through prepayment plans, private insurance companies or other mechanisms.

Received and filed.

Baltimore City Medical Society

The Baltimore City Medical Society of Baltimore, Maryland, adopted a resolution urging that hospital accrediting bodies consider the difference between a small private hospital and a university hospital, and that different standards for private hospitals and university hospitals be established.

Received and filed.

Invitations — 1961 Annual Meeting

Invitations were received from the San Marcos Hotel, Chandler, the Safari Hotel, Scottsdale, and the Hiway House, Tucson, offering their facilities to accommodate the 1961 annual meeting of this Association.

Referred to the House of Delegates.

OTHER BUSINESS

1961 Legislative Program

MR. JACOBSON: Some of the matters which have come across our desk to look at for next year have already been discussed here. There are some others that Bill Manning may want to talk to or others who are on the State Board of Medical Examiners. There has been talk of a possible revision of the Medical Practice Act, to do a variety of things. One has been mentioned, and that is to include within the definitions of the practice of medicine, the curing — the holding yourself out to cure mental ills. Another has to do with possible clarification of the problem or recidency versus internship, which has a great many ramifications. Another has to do with the two-year statute of limitations — possible revision thereof — that has to do with when men who have had their licenses denied or revoked may apply again and under what conditions and how far back can you look for misdeeds, etc. In addition, there has been a great deal of interest apparently generated by the Planned Parenthood Society, to interest this Association in a possible amendment of the misdemeanor statute. Beyond those things, about all we can look forward to, about which I know, are the usual defensive measures.

The meeting adjourned at 12:15 P.M.

Lorel A. Stapley, M.D.
Secretary

RESOLUTIONS HOUSE OF DELEGATES

BUDGET — FISCAL YEAR 1960-61*

RESOLVED by the House of Delegates, The Arizona Medical Association, Inc., that the following Budget of expenses for the fiscal year April 1, 1960 to March 31, 1961, be adopted.

RESOLVED, that the House of Delegates approves that active membership dues of this Association be continued at $70.00 for the coming year, which includes $10.00 per member allocated to AMEF.

ADOPTED May 6, 1960.

SOCIAL SECURITY FOR DOCTORS OF MEDICINE

WHEREAS, the membership of the Maricopa County Medical Society has been polled to determine the opinions of its members regarding participation in the Old Age and Survivors Insurance and Unemployment Compensation Section of the Social Security Act, and

WHEREAS, this survey revealed that the vast majority of those replying are against participation by doctors of medicine in this Act; therefore, be it

RESOLVED, that the Maricopa County Medical Society go on record as opposing doctor of medicine participation in the Social Security Act; and be it further

RESOLVED, that this Resolution be forwarded to The Arizona Medical Association, Inc. for introduction into the House of Delegates for its action at its annual meeting in May, 1960; and be it further

RESOLVED, that a copy of this Resolution be forwarded to the Executive Vice President of the American Medical Association, the Chairman of the Ways and Means Committee of the U. S. House of Representatives, and to the Arizona Congressional delegation in the U. S. Congress.

ADOPTED May 6, 1960.

*Copy of budget can be obtained from Central Offices or Editorial Office.

(1) THE IMMEDIATE DISSEMINATION OF INFORMATION RELATIVE TO THE ACTION OF THE HOUSE OF DELEGATES OF THE ARIZONA MEDICAL ASSOCIATION, INC., MAY 6, 1960, ON PHYSICIANS' PARTICIPATION IN OLD AGE AND SURVIVORS DISABILTY INSURANCE (SOCIAL SECURITY)

(2) RECOMMENDED INDIVIDUAL ACTION OF MEMBERS OF THE ARIZONA STATE MEDICAL ASSOCIATION, INC., RELATIVE TO COMPULSORY INCLUSION OF PHYSICIANS IN OLD AGE AND SURVIVORS DISABILITY INSURANCE (SOCIAL SECURITY)

WHEREAS, the House of Delegates of The Arizona Medical Association, Inc. has expressed itself *in opposition* to compulsory inclusion of physicians in the Social Security System (O.A.S.D.I.) and

WHEREAS, the House Ways and Means Committee of the House of Representatives of Congress has in the past several weeks voted 11 to 9 to provide for the compulsory inclusion of physicians under Title II of the Social Security Act, and has included this proposal in its revised Social Security program bill and

WHEREAS, such bill will be presented to and voted on by Congress within the next 6 to 8 weeks; now therefore, be it

RESOLVED, that the Secretary of The Arizona Medical Association, Inc., shall immediately disseminate information relative to the action of the House of Delegates on compulsory inclusion of physicians in the Social Security System to the following:

1. All members of the Arizona Congressional delegation
2. All members of the Ways and Means Committee of the House of Representatives, Congress of the United States
3. President Dwight D. Eisenhower
4. President — Arizona Bar Association
5. Executive Vice President — American Medical Association
6. AMA News
7. All physician members of Congress
8. All State Medical Associations in the United States
9. Presidents of each of the component County Medical Auxiliaries and be it further

RESOLVED, that The Arizona Medical Association, Inc., shall immediately disseminate in letter form, to each member physician, this information relative to the action of the House of Delegates on Social Security, with the urgent recommendation that each physician write to the Chairman of the House Ways and Means Committee, Representative Wilbur Mills, and to members of the Arizona Congressional delegation, expressing the physician's opinion relative to compulsory inclusion of physicians in the Social Security System.

ADOPTED May 6, 1960.

VETERAN'S ADMINISTRATION POLICY REGARDING DISCIPLINARY DISCHARGE OF PATIENTS WITH COMMUNICABLE DISEASE

WHEREAS, the present policy of the Veteran's Administration Hospitals in excluding from hospitalization for a period of 90 days some patients for disciplinary reasons, or refusing readmission for the same period of patients that have left against medical advice, and

WHEREAS, in Arizona a high percentage of such patients are tuberculosus with positive sputum, and

WHEREAS, such patients, and other patients with serious communicable diseases, constitute a source of infection to citizens of the state while they are at large in the community without adequate isolation or care, and

WHEREAS, numerous new cases of tuberculosis have been traced to contact with such cases, and

WHEREAS, the presence of, or location of such cases is in the majority of instances unknown to the local health authorities, and

WHEREAS, the local facilities for the isolation and care of known positive cases of tuberculosis are already over-taxed and home quarantine or care of such cases is in most instances unsatisfactory, or impossible, therefore be it

RESOLVED: By the Arizona Medical Association that the Veteran's Administration reexamine the policy in regard to disciplinary discharge and delay in readmission for disciplinary reasons where it applies to cases of active tuberculosis who may become a danger to the citizens of the communities in which they reside, so that a closer cooperation will exist between the Veteran's Administration and local public health

authorities, in order that adequate provision can be made to quarantine and isolate such cases of communieable tuberculosis before they become a menace to their families or fellow citizens.

RESOLVED, that a copy of this Resolution be forwarded by our Association to the appropriate Veteran's Administration officials and to the local county as well as to the state health authorities.

ADOPTED May 6, 1960.

OLD AGE AND SURVIVORS INSURANCE AND UNEMPLOYMENT COMPENSATION (SOCIAL SECURITY) — EXTENSION OF BENEFITS TO ALL CITIZENS OF THE UNITED STATES

WHEREAS, it is the belief of some that all classes and individuals in the United States should be forced to participate in the old Age and Survivors Insurance and Unemployment Compensation Section of the Social Security Act; and

WHEREAS, it has been the expressed opinion of the members of The Arizona Medical Association, Inc., voiced by an overwhelming majority (404 against and 16 for) that we were opposed to compulsory inclusion; and

WHEREAS, it has been the repeatedly expressed opinion of the House of Delegates of the American Medical Association that it "unequivocally opposes the compulsory inclusion of self-employed physicians in the Social Security System"; and

WHEREAS, benefits from the Old Age and Survivors Insurance and Unemployment Compensation would be wholly unrealistic when applied to the medical profession; now, therefore, be it

RESOLVED, that the members of The Arizona Medical Association, Inc. duly assembled in its 1960 meeting do hereby again express their firm opposition to being included under the Old Age and Survivors Insurance and Unemployment Compensation; and be it further

RESOLVED, that the members of this Association reaffirm their desire for legislation which would allow them to exercise their individual God-given right to plan and save for their future by a more equitable tax deductible method, as exemplified by the Simpson-Keogh bill; and be it further

RESOLVED, that the expression of this resolution be forwarded to our United States Congressmen, the American Medical Association, and the leaders and proper committees of the Arizona State Legislature.

ADOPTED May 6, 1960.

PUBLICITY OF FEDERALIZED MEDICAL PLANS

WHEREAS, rapidly mounting pressures from trade unions, politicians, and well-meaning Socialists promise very soon to force Forand-type legislation upon the American people; and

WHEREAS, though most of the medical fraternity and allied professions realize the dangerous and undesirable features of Forand-type legislation, the majority of U. S. citizens are not aware of these facts and thus could be swayed to allow this dangerous legislation to pass; and

WHEREAS, it does not appear that organized medicine and allied professions are accomplishing a small fraction of what should be done about bringing the facts to the public; now, therefore, be it

RESOLVED that the Arizona Medical Association, Inc. lose no time in launching a vigorous publicity campaign giving the true facts regarding federalized medicine to the public. This campaign to be pursued on television, radio, newspapers, magazines, public debate and before all service clubs.

This campaign can be strengthened by combining forces with the professions allied to medicine, as well as the pharmaceutical companies, the insurance companies, the U. S. Chamber of Commerce, and other groups who realize the threat of Socialized Medicine.

In short, we who realized the danger have a responsibility to speak out. Our responsibility is not only to our fellow citizens, but also to our medical posterity; further, be it

RESOLVED to set an example and work with the A.M.A. to pursue this course upon a national scale.

ADOPTED May 6, 1960.

ESTABLISHMENT OF A PROGRAM OF VOLUNTARY HEALTH AND ACCIDENT INSURANCE TO COVER THE HEALTH NEEDS OF OLDER CITIZENS

WHEREAS, people in the older age group

in this country have become more numerous due in part to the advances in medical science, and

WHEREAS, people aged 65 or older often are living on retirement incomes which are subject to devaluation by the progressive inflation of the currency, and

WHEREAS, this same segment of the population often requires medical and surgical care in excess of the average citizen, and

WHEREAS, there are numerous proposals by certain senators and representatives to solve this problem by federal government programs financed by general taxation of the people, and

WHEREAS, the medical profession has consistently been opposed to federal government intervention in the field of medical care, now, therefore,

BE IT RESOLVED: That the Arizona Medical Association goes on record as being in favor of and willing to cooperate fully in the establishment of a program of voluntary health and accident insurance to cover completely the health needs of the older citizen which will be non-cancellable and open to all people in this age group regardless of physical condition, and

BE IT FURTHER RESOLVED: That we feel this is the one program which can successfully combat the threat of socialized government medicine which will destroy the private practice of medicine and the private insurance industry as we know them today.

ADOPTED May 6, 1960.

AMENDMENT TO CHAPTER II MEMBERSHIP, SECTION 3 CLASSES OF MEMBERSHIP, (E) AFFILIATE MEMBERS, PROVIDING FOR A FIFTH CATEGORY OF ELIGIBILITY

(E) Affiliate Members

Affiliate members may be elected to this Association by the Board upon recommendation by county societies from (1) those doctors of medicine who are duly accredited in Mexico, or in foreign countries, engaged in medical missionary and similar educational and philanthropic work, (2) Arizona dentists who are members in good standing of their local and state societies, (3) pharmacists who are active members of their Arizona State Association, [and] (4) teachers of medicine and allied sciences who are not eligible to other membership in this Association, AND (5) FORMER ACTIVE MEMBERS OF THIS ASSOCIATION, WHO ARE NOW IN PRACTICE IN ANOTHER STATE.

Rights. Affiliate members shall enjoy the privileges of attending the scientific meetings. They shall not have the right to serve as Delegate, or to hold elective or appointive office. They shall pay no dues.

NOTE: [Bracketed] word represents deletion, CAPITALIZED words are new material.

ADOPTED May 6, 1960.

ESTABLISHMENT OF AN ADULT PSYCHIATRIC CLINIC

WHEREAS, psychiatrists in the Phoenix and Tucson areas agree that there is a need for adult psychiatric clinics; and

WHEREAS, psychiatrists in private practice have agreed to help approved agencies fostering such adult clinics; and

WHEREAS, these clinics would be for people unable to afford private psychiatric care; and

WHEREAS, it is felt that other communities over the state have these same needs; and

WHEREAS, such clinics would work in conjunction with existing state and community agencies involved in mental health and would expect to tie in their activities with the state universities; e.g. training facilities for clinical psychologists and social workers; now, therefore, be it

RESOLVED, that the Arizona Medical Association go on record as recognizing the real need for such clinics; and be it further

RESOLVED, that this Association will do everything in its power to support community establishment of such clinics.

ADOPTED May 6, 1960.

LIMITATION OF FEDERAL MEDICAL CARE OF ALL VETERANS TO SERVICE-CONNECTED DISABILITIES

WHEREAS, non-service connected disabilities are cared for in Veterans' Hospitals; and

WHEREAS, a large portion of the patient load of the Veterans' Hospitals consists of non-service connected disabilities; in November 1957

at a given day there were 39,230 service connected patients and 74,770 non-service connected patients in Veterans' hospitals; and

WHEREAS, the cost of care for patients in Veterans' Hospitals as compared with the cost of care in private hospitals must be considered; and

WHEREAS, there has been a tendency to provide care for more and more people under federal supervision; therefore, be it

RESOLVED, that federal medical care of all veterans be limited to service-connected disabilities

RESOLVED, that a copy of this Resolution be mailed to the Executive Vice President of the American Medical Association, the Arizona Congressional delegation, Administrator of the Veterans Bureau, to the Maryland Medical Association, the Chairman of the Armed Forces Committees of each House of the U. S. Congress, and a copy to the author of the Resolution, the Honorable Doctor Steen of Tucson.

ADOPTED May 6, 1960.



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SAMPLES AND LITERATURE UPON REQUEST

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Medical Society of the United States and Mexico

Guadalajara and Mazatlan in November

The same excellence of papers and the same splendid attendance at all sessions are expected at our next annual meeting as have been experienced in the past. We will meet in Guadalajara on November 8, 9, 10 and in Mazatlán on 11 and 12.

Guadalajara is Mexico's second largest city with a population of almost a half million, an elevation of 5052 feet. The climate is very even, never cold, never hot. The homes have neither heating nor cooling facilities. It is a beautiful city and has been spared violence; it is now as the Mexican Automobile Club's guide says, "An unmarred reflection of Mexico's colonial past and also a mirror of the XXth Century progress with industries, factories and large markets." Members and wives attending the meeting will have an opportunity to visit Tlaquepaque, a suburb where they make and sell articles of pottery, glassware, silver and other native craft items. There will also be a trip to Chapala on Mexico's largest lake.

Mazatlán, meaning "place of the deer", is familiar to many of our members as a famous fishing port. This city of 40,000 is situated on the Gulf of California and has one of the most beautiful setitngs on the west coast of Mexico.

Our members who have attended meetings in Mexico do not need to be told about the hospitality always found there; those of you who will be going for the first time will come back trying to find words to describe it.

You will soon be furnished with information concerning reservations and methods of travel available.

Juan E. Fonseca, M.D.

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DUKE R. GASKINS, M.D.
MEDICAL DIRECTOR

August 1, 1960

Re: Cancer Insurance

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Editorial

SURVIVAL

Thomas Jefferson commented that it was an aim of the Declaration of Independence "to place before mankind the common sense of the subject, in terms so plain and firm as to command their assent, and to justify ourselves in the independent stand we are compelled to take." We must make that stand in establishing our defense program.

The public must be made aware of the fact that our survival as a nation is at stake. We as medical men must assist and so establish the situation in terms that the public will understand, so that they will respond to this aspect of our defense. Unfortunately we must place it in the terms of Civil Defense, a term that during World War II in the U.S. was synonymous with playing tin soldier. And possibly because of this term it is a phase of our way of life that is not given just consideration and planning.

We have remained a free nation because of the foresight of individuals such as General Lemay who have continued to demand adequate strategic air capability. No other position would have been so effective. It does not appear in our time that this retaliatory capability can be lessened.

Alongside this, however, we must develop an internal capability to survive as a nation. Our

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R. L. Foster. M.D. Nov. 1952-April 1956

CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

government has established a stand which necessitates that if and when war comes we must accept a tremendous blow. This could prove to be a mortal one if we are not prepared to accept it. The ability to recover from this blow and to survive an all-out attack is merely an extension of our arm of retaliation. The denial of the ability to destroy a population magnifies the Russians' problem of offense many times. Proper preparation presents a serious threat to their ability to deliver a knockout punch, and their burden is increased by increasing the stress on their economy with extended military requirements.

If we as citizens and doctors are hard-willed enough to plan for survival, to prepare reasonably secure fallout shelters, to practice emergency procedures, then we have taken a large step to eliminate panic and hysteria and are so organized that we can support the necessary retaliatory forces.

Our organization must take positive steps to meet the requirements that may be placed upon it. It must eliminate the defeatist attitude that there is nothing to be done.

A re-evaluation of the potential target sites in Arizona and the planned targets that exist makes it possible for one to reach only one conclusion. This is a way of life that we must accept — we must take steps to live with this during the ensuing years and, if necessary, to survive the initial destructive impact.

This calls for reactivation of our Civil Defense committee with serious thinking on the part of those involved to properly evaluate the situation, to adequately make recommendations for our survival and the care of the enormous number of patients that would be turned upon us.

Obviously, fallout is the problem, and inactivity plays only into the hands of the enemy.

DWN

A GUEST EDITORIAL*
WATCH OUT!

It is quite possible the powers that be in Washington have more than one reason for complaining about the prices of drugs. Senator Estes Kefauver's drug price investigating subcommittee would have us believe that the government's sole interest is "simply with the price of drugs—a price which must be paid by someone under any system of medical care." I think there is a psychological reason which they hope to keep under cover. This Senate antitrust investigation is just another cunning approach in the attempt to slip socialized medicine in at the back door. It appears to me that Mr. Kefauver almost gave this fact away in his opening statement when he said: "It is not the purpose of these hearings to question in any way the American system of private medical practice." I react to this statement in the same manner I would if a small boy should rush into my office and exclaim: "Doctor, someone batted a baseball through your back window —and I don't want you to think that I did it."

If these investigators' thoughts were just in the drug field, they should also be concerned about quality as well as price. They certainly have shown a lack of interest in the cost of pharmaceutical research and manufacturing, and without research, drugs would soon degrade in both quality and quantity. The Senator's line of reasoning in advocating that druggists be allowed to use generic instead of brand names, would throw the drug business into a tail spin within a short time. If one company spends a million dollars to produce a new drug, and another concern is allowed to copy the formula, pay none of the research cost, and market the product at a low price, the results would be disastrous. The better firms would go broke, initiative to find new drugs would be smothered and we would find ourselves advancing in reverse — back towards the "calomel and castor oil days".

I feel that these governmental probes are motivated, primarily, for publicity. If they can attract enough attention by their investigations of the major drug manufacturing firms, and lead the American people into believing that the prices of drugs are too high, it might be possible to gain a large number of sympathetic listeners.

They hope to stir up enough interest in the drug controversy to swing the spotlight away from the doctors for a while, give us a breathing spell, make us feel complacent and lessen our vigil against legislation like the Forand bill. It is their wish that we don't get wise to their twofold purpose of these investigations in relation to the Forand bill itself. First, they will attempt

* Reprint from Virginia Medical Monthly, Vol. 87, pages 176-176, April, 1960.

to convince the public that older people, on social security, will not be able to pay the high drug prices —and that the government should step in to help. Second, if these tactics could get a Forand type of legislation passed without enough medical publicity to stir up strong opposition — they would be in position to widen social security to cover everybody. Then we would have socialized medicine under another name.

People, consciously, or unconsciously, associate drugs and physicians together. An aroused populace against drug prices would not be too friendly towards the medical profession. Such a situation would gain recruits for a more effective battle against the free practice of medicine. While we sit on the side lines, apparently unmolested, and watch the steam roller attempt to crush the drug firms, we must remain alert. We could get caught napping like Hitler did one time during World War II — when the Allied soldiers were issued heavy, long-handled underwear. As soon as the Germans got wind of it, they rushed up to Norway while our troops poured into Africa. It behooves us to watch out for all sorts of misleading tactics, because this drug battle is only a sham attack. The medical profession is their chief objective. They hope to find time to reorganize their forces, turn upon us without warning and launch a surprise attack where and when we might least expect it.

F. Clyde Bedsaul, M.D.

Floyd, Va.

1960 CONVENTION

The most successful convention, the 69th, was concluded May 7, 1960. The registration of over 400 is equal to approximately 40% of the membership. This is indeed a record. The scientific program was superior, and the social activities were well attended where personal communications were enjoyed. The physical facilities were above previous levels.

That the Americans still enjoy this privilege, to change their minds, was illustrated by the scarcity of steaks at the dinner dance. If in the future, a convention evokes as few complaints as this one, it will be most successful.

The exhibitors, who contribute (not for Kefauver), were well pleased, thanks to Roland Schoen, and we can thank Roland for the successful novel organization. One potential exhibitor, whose company chose not to exhibit this year, stated, "It was so good that I think the admission fee for exhibitors should be raised next year."

The writer, who will be charged with the responsibility of organizing and directing the 1961 meeting, is indeed challenged by the pattern set this year by Lindsay Beaton and his committee. But we will try — if you have any constructive criticism or advice, it will be more than welcome — — — SEE YOU NEXT YEAR.

LBS

MEDICO-LEGAL DIGEST

Notice is taken to the appearance of a monthly publication entitled "Medico-Legal Digest" which is striving to take its place among the many publications of this type in carrying information to the practicing physician on the pertinent application of the law to medicine. The Board of Directors of this publication include such famous names as LeMoyne Snyder, M.D., L.L.D. of "Court of Last Resort" fame, and Dr. Carl Wasmuth, M.D., L.L.D. from the Department of Legal Medicine, of the Cleveland Marshall Law School.

It is hoped that this publication will present factual information rather than editorialize so that we may drew our own conclusions in the relationship of the law to medicine.

IMC.

SOURCE FOR STATISTICS

HEALTH STATISTICS from the U.S. National Health Survey (Series B — No. 16, May 1960) covers statistics on the number of injuries and days of disability due to injuries by type of injury, class of accident, sex, and age and is based on data collected in household interviews during the period July 1958 - June 1959.

For this report, No. 584-B16 (price 30 cents) and others in the series of Public Health Service Publications, order from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

In Memoriam

David Marcus, M.D.

1901 - 1960



David Marcus, M.D.

Dr. David Marcus had practiced medicine in Tucson for the past 11 years, having moved there in 1948. He was born in Montreal, Canada and was a graduate of McGill University Medical School in Montreal. He interned at Manhattan State Hospital, New York City, 1923-24; Mt. Sinai Hospital, Cleveland, Ohio, 1924-25; and Sunny Acres Sanatorium, Warrensville, Ohio, 1925-26. For a number of years he was in private practice in Cleveland. He was a Fellow of the American College of Chest Physicians.

During World War II Dr. Marcus served as a major at Fitzsimmons General Hospital in Denver, from 1942-46.

Dr. Marcus was a member of the Pima County, Arizona, and American Medical Associations; the Association of Military Surgeons and the Trudeau Society. He was also a member of the Tucson Elks Club and Morgan McDermott Post of the American Legion. He was a former member of the Uptown Optimists Club.

His widow, Bernice Mae, resides at 4102 E. Lester, Tucson. Their two sons are James of Tucson, and Bernard, of Sacramento. His mother is Mrs. Mary Marcus, of Ste. Agathe, Quebec; his brothers and sisters are Dr. Simon Marcus, of Tucson, Marc, of Montreal, Louis, of Vancouver, B. C., Mrs. Rebecca Shapiro, of Ste. Agathe, and Mrs. Fanny Plastock, of Cleveland.

RESOLUTION

WHEREAS, the members of the Pima County Medical Society recognize that the death of David Marcus, M.D. has caused the community in which he served to suffer the loss of a skillful and devoted physician, and

WHEREAS, in particular, his colleagues in medicine feel a deep sense of personal loss in the death of a fellow physician respected for his ability and his ideals, and of a companion loved for his kindly wit and his unfailing gaiety of spirit, be it THEREFORE

RESOLVED: That the Pima County Medical Society inscribe these sentiments in its permanent records, and convey to his family an expression of sorrow and sympathy in this intimate grief.



Frank Cohen, M.D. — 1879-1960

FRANK COHEN, M.D.

Dr. Frank Cohen was born in New York City. He graduated from Columbia University in 1903 and interned in New York and followed this with special training in pathology and practiced it exclusively for 30 years prior to coming to Arizona. He was a diplomate of the American Board of Pathology.

Through the first World War Dr. Cohen served as a Captain in the medical corps. After the war he located in Quincy, Illinois, where he conducted his own pathological laboratory. At the same time he was pathologist to two hospitals in that city, St. Mary's and Blessing, doing all of their laboratory work, conducting clinical pathological conferences and becoming, for one term, president of the medical staff of one of the hospitals. During this time he also served as secretary and later president of the local county medical society in Quincy, Illinois. He was pathologist to a state branch cancer clinic.

Dr. Cohen eventually sold his pathological laboratory and traveled somewhat extensively before coming to Tucson. He served Pima County General Hospital as pathologist from September, 1950 to January, 1958 and became a member of the Fifty Year Club in 1953. Following his retirement from the county hospital, he and his wife traveled again in Mexico and overseas.

Dr. Cohen's widow, Constance Plaut Cohen, resides at 2820 E. Tenth Street, Tucson. Their three children are Mrs. Agnes Bogart of New York City, Mrs. Joanne Powers of Chicago, and George H. Plaut of Philadelphia.

JOHN C. GODBEY, JR. M.D.

Dr. John Campbell Godbey, Jr., died in Morenci, May 7, 1959.

Dr. Godbey was born at Fayette, Missouri, June 11, 1914. He received his M.D. degree from the University of Texas Southwestern Medical College, Dallas, in 1944; interned at the Baylor University Hospital, Dallas, 1944-1945; served a residency in Obstetrics and Gynecology at the Baylor University Hospital 1945-1946; served in the Army of the United States 1946-1947 being honorably discharged with the rank of Captain; was licensed to practice Medicine and Surgery in Texas on May 1, 1944; practiced his profession in that state from 1947 to 1956.

He received a license to practice in Arizona on January 21, 1956. He immediately began practice in Morenci. He was at the time of his death a member in good standing of the Greenlee County Medical Society, the Arizona Medical Association, and the American Medical Association.

Topics of Current Medical Interest

Use of Triiodothyronine (T-3) in the Treatment of Acute Barbiturate Poisoning

COMMITTEE ON POISONING CONTROL

During the past two years a number of telephone inquiries have been received at the Arizona Poisoning Control Information Center concerning the efficacy of the thyroid hormone triiodothyronine (T-3) in the treatment of barbiturate poisoning. The majority of these telephone inquiries apparently stemmed from a newspaper article(1) describing the use of triiodothyronine in counteracting a lethal overdose of barbiturates. The article concluded that "in the absence of an artificial kidney which generally has been used in extreme cases of barbiturate toxicity, T-3 appears to be one of the best therapeutic remedies found thus far". Also, during this period, the Arizona Poisoning Control Information Center received reports concerning two cases of barbiturate poisoning which were treated with the intravenous injection of triiodothyronine and one case which was treated with the intravenous injection of thyroxin. It was impossible to assess the efficacy of the thyroid hormones in reversing the central nervous system depression caused by acute barbiturate intoxication in these cases, since various combinations of analeptic agents, such as bemegride, metrazol, and caffeine and sodium benzoate were also employed.

Since a search of the medical literature re-

vealed no clinical reports or experimental studies on the use of triiodothyronine as a barbiturate antagonist, the Arizona Poisoning Control Information Center was prompted to conduct preliminary animal studies on the effect of the thyroid hormone on barbiturate-treated mice. These experimental studies consisted of determining the effect of triiodothyronine on the sleeping time of barbiturate-anesthetized mice, a test which has been employed by other investigators for evaluating the antidotal efficacy of analeptics in barbiturate-treated animals.(2, 3) For example, Shaw and co-workers have shown that the analeptic agent, bemegride (100 mg/kg), when injected into mice and rats treated with pentobarbital (60 mg/kg), caused a 50 per cent reduction in sleeping time of these animals.(2)

In the present studies male albino Swiss mice of the Webster strain, weighing between 14 and 23 grams, were divided into test groups and control groups of 10 animals each. All animals were injected intraperitoneally with an hypnotic dose (80 mg/kg) of sodium pentobarbital. As the righting reflex was lost, each mouse was then injected intravenously with either a triiodothyronine solution or the requisite volume or normal saline solution. Each group of test animals received one of eight dose levels of sodium liothyronine (sodium L-triiodothyronine)* consisting of 10 mcg/kg, 100 mcg/kg, 1 mg/kg, 10 mg/kg, 25 mg/kg, 50 mg/kg, 150 mg/kg, or 250 mg/kg. The sodium liothyronine solutions were prepared such that 10 ml/kg of the solution contained the appropriate dosage. The normal saline solution received by the control animals was adjusted to the same pH as the triiodothyronine solutions. The time interval between loss and recovery of the righting reflex was taken as the sleeping time.

The result of the present experimental studies was negative. The test animals not only failed to exhibit a reduction in sleeping time, but in the higher dosage levels they actually exhibited an *increase* in sleeping time. The increased sleeping time ranged from 15% in the mice treated with 10 mg/kg of triiodothyronine to 49% in the mice treated with 250 mg/kg of triiodothyronine. Since the oxygen consumption of tissues from thyroid hormone-treated animals are reported to be greatly accelerated(4), it is tempting to speculate that this factor may be involved in the prolongation of sleeping time in the barbiturate-poisoned animals treated with high dose levels of triiodothyronine. These studies would seem to suggest that the use of triiodothyronine for the treatment of acute barbiturate (and other central nervous system depressant) poisoning should be avoided, if not contraindicated.

On the basis of the above preliminary animal studies and in view of the absence of controlled clinical studies, the Arizona Poisoning Control Information Center does not recommend the use of the thyroid hormones, triiodothyronine and thyroxin, in the treatment of acute barbiturate poisoning.

*Grateful acknowledgment is made to Smith Kline & French Laboratories, Philadelphia, Pa., for the sodium liothyronine (Cytomel) used in this study. Sodium liothyronine was dissolved in 0.01N NaOH in saline solution according to the method of Murphy et al(5).

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STATISTICS OF 66 POISONING CASES IN ARIZONA DURING APRIL, 1960

AGE:

69.7%	involved under 5 year age group	(46)
1.5%	involved 6 to 15 year age group	(1)
9.1%	involved 16 to 20 year age group	(6)
9.1%	involved 31 to 45 year age group	(6)
6.1%	involved over 45 year age group	(4)
4.5%	were not reported	(3)
84.8%	accidental	(56)
15.2%	intentional	(10)
21.1%	occurred between 6 a.m. and noon	(14)
31.9%	occurred between noon and 6 p.m.	(21)
13.6%	occurred between 6 p.m. and midnight	(9)
7.6%	occurred between midnight and 6 a.m.	(5)
25.8%	were not reported	(17)
100%		(66)
0%	fatal	(0)

NATURE OF INCIDENT:
TIME OF DAY:
OUTCOME:
CAUSATIVE AGENTS:

		Number	Percent
Internal Medicines			
Aspirin		18	27.3
Other Analgesics		4	6.1
Barbiturates		7	10.7
Antihistamines		2	3.0
Laxatives		3	4.5
Cough Medicine		0	0.0
Tranquilizers		2	3.0
Others		5	7.6
	Subtotal	41	62.2
External Medicines			
Liniment		2	3.0
Antiseptics		1	1.5
Others		0	0.0
	Subtotal	3	4.5
Household Preparations			
Soaps, Detergents, etc.		2	3.0
Disinfectants		1	1.5
Bleach		0	0.0
Lye, corrosives, drain cleaners		1	1.5
Furniture and floor polish		2	3.0
	Subtotal	6	9.0
Petroleum Distillates			
Gasoline		0	0.0
Kerosene		0	0.0
Others		0	0.0
	Subtotal	0	0.0
Cosmetics		1	1.5
Pesticides			
Insecticides		4	6.1
Rodenticides		1	1.5
Others		0	0.0
	Subtotal	5	7.6
Paints, Varnishes, Solvent, etc.		0	0.0
Plants		1	1.5
Miscellaneous		7	10.7
Unspecified		2	3.0
	TOTAL	66	100.0

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ARIZONA BLUE CROSS

Arizona Blue Cross membership rose to an all time high of 229,604 members, as did Blue Shield with its 201,596 total members. Payments by Blue Cross to hospitals for the care of subscribers for 1959 were $4,962,581.32, which was by far an all time high in this respect. Payments to Blue Shield Participating Physicians amounted to $2,765,120.32, or a combined payment for the care of Arizona Blue Cross-Blue Shield members of $7,727,701.64.

EARLY SYPHILIS EPIDEMICS IN ARIZONA

Most Americans, and unfortunately, some physicians are under the impression that penicillin has banished syphilis as a major health problem. Optimistic health authorities have reasoned that since penicillin could quickly render this disease non-infectious, and cure it, the end of syphilis was in sight.

During the past ten years many of us have developed a complacency toward syphilis. This attitude is probably supported by the fact that we have reduced the incidence of this disease in the U. S. 70% since 1948. We have improved the diagnostic tests for this disease. One of the accepted schedules for the treatment of early syphilis is one injection of 2.4 million units of benzathine penicillin-G. Many also believe that even though we do not try to detect and treat this disease the widespread use of antibiotics alone will eliminate it from our population very soon. We forget that syphilis is a communicable disease. It is a communicable disease for which we have no immunizing agent. The only way it can be controlled is by finding cases and treating them before the disease is passed to others. This makes it possible for it to appear suddenly in epidemic form almost without any warning. This is what has happened in Arizona.

Three epidemics have occurred during the past year, two in essentially rural areas and another in an urban. So far there have been one hundred and fifty-three (153) cases of early infectious syphilis treated as a result of these epidemics and the end is not in sight as far as one rural outbreak is concerned. This unwelcome news has caused public health authorities to re-evaluate our VD control program. It is also a warning to the private physician that the old enemy that we thought buried or at least on his last legs is healthy and strong again and ready to do battle.

The first rural outbreak was discovered in the office of a private physician. A first trimester serology on a prenatal patient was returned positive with a high titre. An examination revealed recent secondary syphilis scars so the patient was diagnosed as having early latent syphilis. The physician wisely suggested that the husband come in before the wife finished treatment. This he did. He also was positive with a high titre blood and was also diagnosed as having early latent syphilis. The physician attempted to interview the husband for contacts, but with little success. Like most busy physicians he did not have the time it takes to establish rapport with the patient which is so necessary for a successful interview.

The knowledge of this epidemic would have died right there, if a public health worker had not entered the field. The serologies on the above indicated persons were performed at the State Department of Health laboratory in Phoenix. It is the policy of the State Department of Health to follow-up all positive serologies reported by its laboratories on private physicians' patients. It is done in the following manner: A venereal disease investigator calls on the physician who sent the blood to the laboratory. He first determines if the patient is infected, if so, the stage of the disease. If the case has not been reported he helps the physician prepare the morbidity report card. If the case is infectious (primary or secondary) or potentially infectious (early latent) he inquires if the patient has been interviewed to determine, first, the sourse of the infection and second, to determine if the patient has passed on this infection to others.

If the patient has been interviewed by the physician the investigator next determines if the contacts obtained have reported for diagnosis. If not, he offers to persuade these people to go to their physician for this purpose. If the patient has not been interviewed, the investigator, who is a trained interviewer, offers to do this for the physician.

In the case in question the physician was happy to have the investigator interview both patients.

The following is a description of this epidemic. Fictitious names are used, and in some cases the events were altered slightly to preserve the confidentiality of this information; however, it happened substantially as described:

Jack, the husband, a skilled worker with a good income, was interviewed first. He gave three contacts, his wife and two others. One of these latter two, and the one later determined to be the source of the infection, was a Mexican border prostitute never brought to treatment.

The second contact was Rita, an attractive local divorcee. Rita was infected. It can be said that Rita was promiscuous to a degree, because she revealed seven male contacts during her nine month incubation and infectious period.

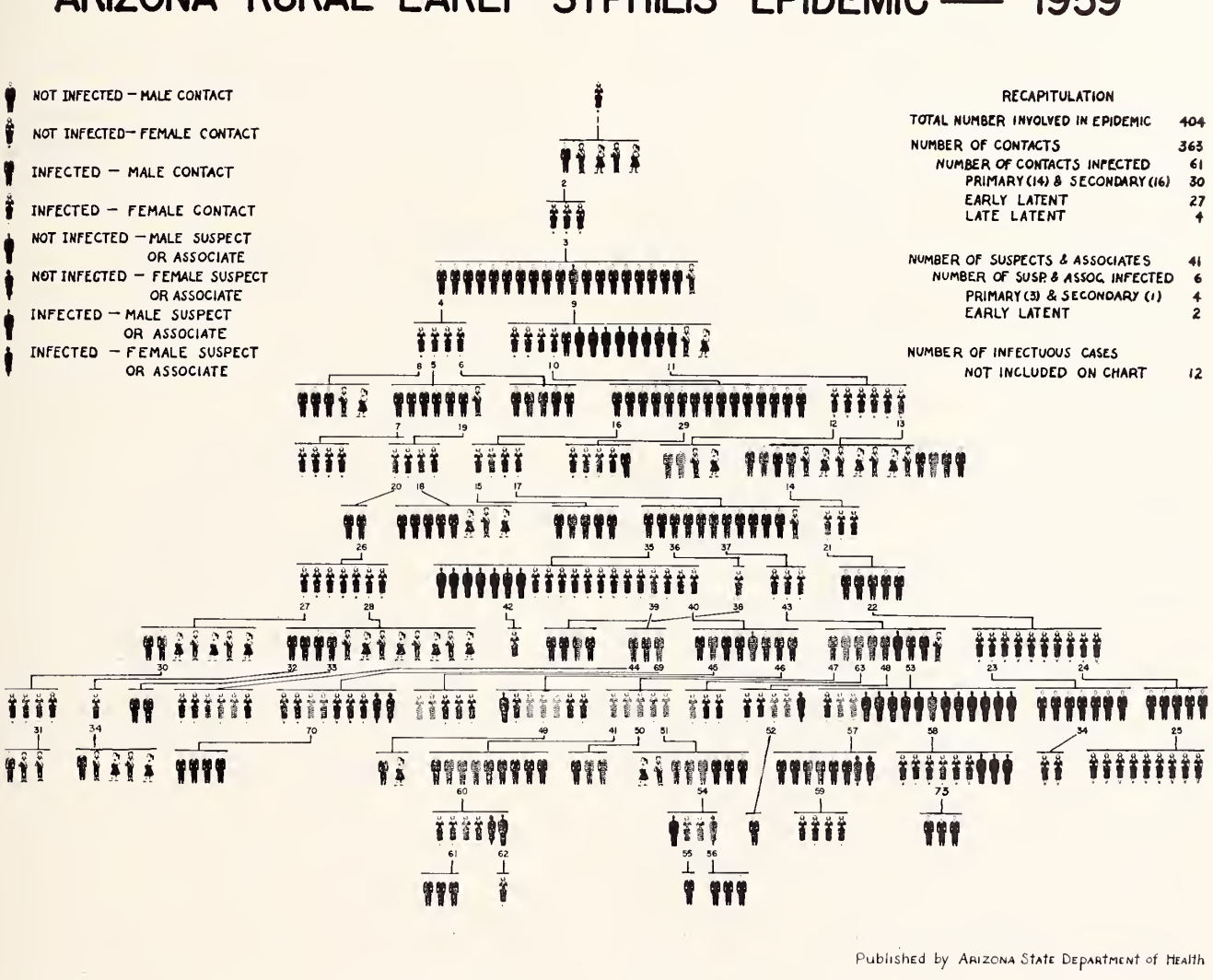
Two of Rita's contacts were infected. Both of these men were young and sexually active. When interviewed they revealed twenty-seven (27) contacts, nine of whom were infected.

And now, as always happens when a chain of venereal disease infection ensnares promiscuous groups, *the lid was off*. A simple chain of infection now becomes almost too involved for two-dimensional representation, and might be better represented as a roughly diamond-shaped bird cage with each point representing an infected luetic bound by a spirochaetal wire to the source of its infection and in turn to that individual it later infected. The whole epidemiological cage based on a single border prostitute widens at its middle section to include some seventy-two (72) contacts and suspects and finally terminates in several loose ends. These loose ends in most cases represent prophylactically treated individuals, and in a few cases, contacts who could not be located.

It is difficult to define the beginning and the end of such an epidemic. The border prostitute, we term our base, may well be the apex of a similar bird cage in Mexico. Any one of the unlocated contacts may be the base of another. We can only hope that all branches of the infectious chains have been broken. We know that it is necessary to maintain basic epidemiologic vigilance for a long period after such an epidemic to make sure that other epidemics do not occur.

This epidemic has proven that a group of devoted local physicians and a dedicated public health worker can form an unbeatable team in the fight against syphilis.

Their work is illustrated by Table I and Chart I. A total of sixty-seven (67) cases were treated for syphilis. Sixty-three (63) of these were in the infectious stage (primary, secondary and early latent syphilis). A total of thirty-four (34) were open lesion cases (primary and secondary) and the others were non-infectious or latent cases of syphilis. Chart I shows how these



cases formed an epidemiologic pattern among the four hundred and four (404) persons involved.

URBAN EPIDEMIC

The urban epidemic has involved over one hundred (100) Phoenicians in a sexual chain that crosses and recrosses this city.

A total of eighty-six (86) of these suspects were examined in the clinics of the Maricopa County Health Department. Twenty-one (21) of these persons were diagnosed as having early infectious syphilis. There were nine (9) others treated prophylactically on the assumption that they were in the incubation stage of the disease. Sixty-six (66) suspects were referred to their private physician for diagnosis with three (3) being diagnosed as infected.

This chain of infection began with Abe, twenty-three. A big good-looking truck owner and operator. Ten months ago he took a load of furniture into Los Angeles, waited a day and apparently a long active night for a load, and then came back "light" to Phoenix, no cargo except an unsuspecting incubating chancre.

Abe was certain, with some reason that the chancre was merely an abrasion not serious enough to limit his social life. He is not a heavy drinker, yet he spends every free evening in a tavern. After five or six beers there is almost inevitably a pick-up. He named nineteen such at this time.

One of his favorites was Jane, eighteen and good looking. Abe infected Jane. Jane also claims Abe was the man who got her pergnant. She didn't really blame him in either case, "for after all that's a man's nature." She still thinks of herself as Abe's girl, in spite of the fact she named seven other sexual contacts besides Abe.

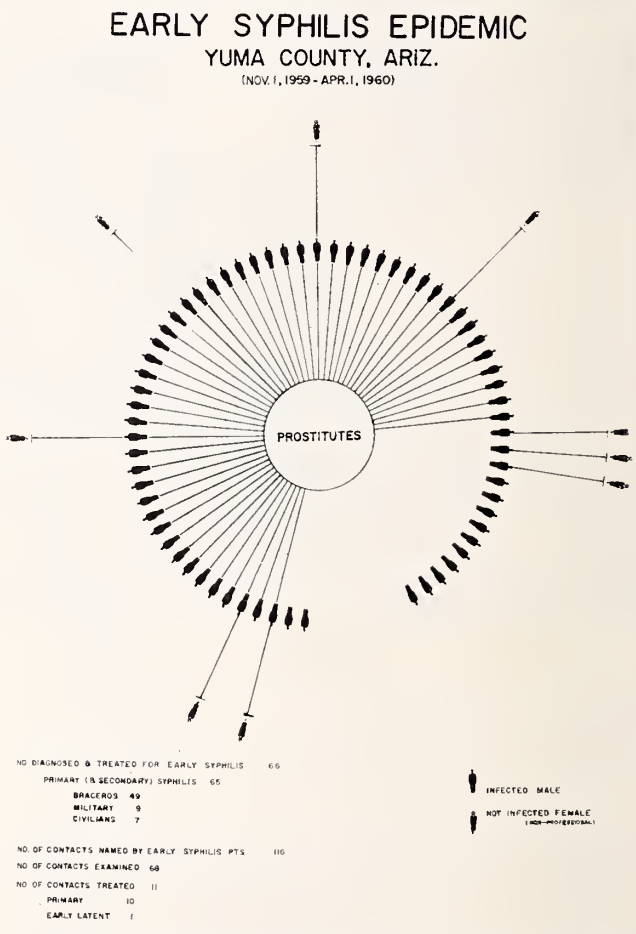
Abe also infected Wanda, a tall attractive woman of twenty-three, who knew how to capitalize on her good looks. Unfortunately, Wanda was also a chronic alcoholic. She, like Abe, frequented taverns and never lacked for men to buy her drinks. She could remember the names of nineteen men who had been her drinking as well as sleeping companions. She admitted that there were probably several more. She infected ten of these nineteen contacts.

An experienced venereal disease clinician was equal to this situation. Working close with two Maricopa County venereal disease investigators he began to treat all sexual contacts of infectious persons with 2.4 million units of benzathine penicillin-G whether or not they had symptoms of the disease.

It could be argued that this procedure is not good medicine. It may not be, but unusual situations sometimes require heroic measures to combat them. This, to say the least, was an unusual situation and the measures taken solved the problem effectively. While these measures may not have been good medicine they were certainly good public health. In fact this is a classic example of how to stop an explosive syphilis epidemic.

EARLY SYPHILIS EPIDEMIC IN YUMA COUNTY

During the past three years a model venereal disease control program has been in operation on the Yuma-San Luis border. The basis of



this program has been close cooperation between the Yuma County Health Department and the San Luis Municipal Health Department. Prior to three years ago an average of one hundred to one hundred and twenty-five cases of gonorrhea were reported from Yuma County during the height of the agricultural harvest season. Most of these cases were in the Mexican

national farm labor group. At the height of harvest season there were approximately eight thousand of these men in the area.

The recreation facilities for this number of men in the area were limited and almost to a man they seek recreation in San Luis where open prostitution is practiced. Three years ago a new health officer arrived in San Luis and instituted a close control program among the prostitutes in San Luis. This included weekly injections of penicillin "PAM" and a weekly or bi-weekly physical examination. The infection rate immediately dropped from one hundred twenty-five to five or six each month. The infection rate among the general population in the county dropped in the same proportion. These low rates were almost unheard of elsewhere along the border.

This happy situation existed until the latter part of October, 1959. At that time a military base suddenly reported four cases of primary syphilis. These cases were interviewed by military personnel and their contacts were from two houses of prostitution in San Luis. The next day seven new cases of primary syphilis were reported by the insuranee physician from the braceros in this area. An arrangement had previously been made to have all cases of infectious venereal disease found by insurance doctors interviewed by the investigator at the Yuma County Health Unit. He immediately contaeted and interviewed these seven men. They also gave eontaets from the same two houses that were given by the infected military personnel. These contact reports were taken immediately by this investigator to the director of the municipal health department in San Luis. Action was immediately taken and all girls in the two offending houses were examined. Two girls in one house and one girl in the other were found to bc infected and were treated. All the rest of the girls in the two houses were treated prophylactically.

Within the next two weeks two additional cases of primary syphilis were reported by military and fifteen additional eases were reported by the bracero insurance doctor. Again all contaets elecited were in the houses of prostitution in San Luis. The two offending houses were again named and three additional entered into the picture. All eontacts were immediately taken to the San Luis Health Department and additional girls were found to be infected and were treated.

We were just eongratulating ourselves on the fact that this epidemie had apparently missed the general population of the state when two local doctors reported three cases of primary syphilis in the general population. Again the investigator went into aetion and reeeived permission from the physicians to interview these cases. One of these cases left the state before he could be interviewed, the other two were interviewed by the investigator, but again all contacts were in San Luis.

There then followed a period of two or three weeks lull in whieh no additional cases were reported. Everyone congratulated themselves on the fact that the epidemic apparently had been stopped. However, additional cases started to turn up, particularly in the bracero group, and were reported more or less steadily for several weeks, then the epidemie eeased. It is hoped that it will not flare up again.

At this date sixty-five eases of primary and secondary and one case of early latent syphilis have been identified in this epidemic. Five other cases have been reported as primary syphilis, but four of these were later diagnosed as gonorrhea and one as not infeeted (see attached chart). Of these sixty-six cases, fifty-one gave contacts in houses of prostitution in San Luis. Three gave contacts in San Luis who were not prostitutes. One gave contaets in other parts of Mexico. One claimed no contacts anywhere, and ten were not interviewed. Of these ten not interviewed, six were braeeros who returned to Mexico before the investigator could find them for an interview. Epidemologic reports have been sent to Mexico asking that these men be interviewed, but no reply has been received on any of them. Two of the other four who were not interviewed were transients who left the state before they eould be interviewed. A good address was found for one of them in an adjoining state. A report has been sent to this state and we hope to get a report of an interview. The other one left the state for work, but is expected back at his family residence in Yuma at any time. When he returns he will be interviewed. Two braceros have not been interviewed as yet. One is on vacation in Mexico and will be interviewed when he returns and the other was taken to another part of the state where he will be interviewed shortly.

Table I indicates that this epidemic is pri-

marily in the adult population. Of the forty-nine infected braceros only two were under twenty years of age. Both were nineteen. One civilian case was seventeen years of age. One of the military cases was also seventeen years of age.

TABLE I: AGE DISTRIBUTION OF INFECTED PERSONS YUMA COUNTY EARLY SYPHILIS EPIDEMIC

Age	All Cases	Bracero	Military	Civilian
14-19	4	2	1	1
20-24	18	11	6	1
25-29	18	15	1	2
30-34	7	5		2
35-39	13	12	1	
40-44	4	3		
45-49	1	1		
50-54				
55-59	1			1
All Ages	66	49	9	8

Summary

The past eighteen months have been one of rude awakening for physicians and public health workers interested in venereal disease control. These epidemics of early infectious syphilis have occurred, which have reminded us that this is a communicable disease which can explode in our population at any time. These large epidemics and numerous other small ones have been responsible for a thirty-nine per cent increase in the number of primary and secondary cases of syphilis reported during calendar year 1959 over 1958, and over a two hundred per cent increase during the first four months of 1960 over the same period during 1959.

Arizona State Department of Health
C. G. Salsbury, M.D., F.A.C.S., Commissioner. .

AAPS ESSAY CONTEST WINNER

Miss Ann DeLeeuw, 1151 W. Royal Palm Road, Phoenix, Arizona, after garnering the first place among contestants here in Arizona, was recently adjudged second-place winner at the national level (prize $500.00) in the 1959-60 Association of American Physicians and Surgeons' Freedoms Program, Inc. essay contest for high school students. Miss DeLeeuw chose for her subject "The Advantages of Private Medical Care". Essayists are given their choice of this subject or "The Advantages of The American Free Enterprise System". First prize nationally was written on the latter subject and was won by Miss Sherry Saxton, a junior at Elmira Free Academy, Elmira, New York.

That Miss DeLeeuw's effort was awarded this high honor is a tribute not only to her own capabilities but also to the Maricopa County Medical Auxiliary who sponsored the AAPS essay contest locally. The further education of the youth of America in the basic principles which laid the basic foundations and were the guiding factors for the social, political and economic growth of our Republic is made possible by the enlightenment gained by participation in the AAPS Freedoms Program contest.

The text of Miss DeLeeuw's essay follows:

L. D. Sprague, M.D.
Arizona Chairman
AAPS Essay Contest

The Advantages Of Private Medical Care

America is probably the leading nation in the world today, and it owes this leadership to the fact that it is a thriving democracy. Take away its freedoms for a moment and it would crumble into oblivion like the ancient empire of Rome. Democracy has made America great and will keep it great, if the people never lose sight of this fact.

In recent years, the citizens of our Nation have looked around and found a health problem marring its surface, like a scratch on a brand new car or finger prints on a freshly painted wall. Then, instead of facing the problem, they panicked, screamed for help, ranted and raged and came up with the supposed answer — Socialized Medicine or Government Operated Medical Care. They forgot that America is the healthiest large nation in the world with the highest standards of health care.(1) And, it is the only nation that spends an adequate amount on medical research.(2) They forgot about democracy and their much loved liberty and proposed a positive step towards Socialism.

As presented to the people, Socialized Medicine gives every indication of being the eradicator of the American Health problem. It offers free medical care to everyone regardless of race, color, or creed. Everyone has health insurance and under the plan all expenses seem to pass away. They seem to pass away, but actually they merely change from bills into taxes. No one

gets something for nothing from the Federal Government, the State, or anyone else. The people can't turn the responsibility for health over to the State and expect to remain free.(3) From the outside looking in, Socialized Medicine looks pretty nice and it is a temptation to want to try it. But, we need not try it to know what it is like. We need only to look at England and see how Socialized Medicine has worked for her. Socialized Medicine was introduced into England about 30 years ago, with the promise of first rate medical and surgical care for the whole population. But, today it is easy to see that it has been impossible to keep this promise. At best, they have only been able to provide second rate treatment and in some cases less than that. There are just not enough trained doctors and nurses and enough medical facilities to care for its 48,000,000 people. Over-worked doctors and over-crowded hospitals have gradually led to greatly deteriorated medical care. A physician, who practiced in Britain, in talking about England, himself wrote "Public health measures, such as venereal disease control, child and maternal welfare, immunization against contagious diseases, water and milk sanitation — which Americans take for granted — are literally a generation behind the United States."(4)

More important than the inefficiency of the plan is its Socialistic organization. Every doctor is told where to practice and in many cases what to do. He is assigned his patients and comes to consider the health of the patient as a thing to be cared for in order to improve the efficiency of the community.(5)

The patient, on the other hand, has difficulty in seeing his doctor and when he does see him receives on an average about three or four minutes of medical attention. He is often unable to receive needed hospitalization and all the confidential patient-physician relationship, which Socialized Medicine promised, is destroyed.

The people are free to refuse the plan but if they do, they will have to pay twice as much for medical care as anyone else. Doctors can also refuse to join the plan, but on their own, they will be unable to earn a living. The majority of the people will seek free medical care rather than pay the doctor, which would mean paying double. Therefore, there would not be enough people with sufficient financial means to support the private doctor.

Economically, Socialized Medicine has cost about triple the estimated amount.(6) Consequently, something had to be done. Free false teeth were dispensed with and then free wigs for the bald and free spectacles. Still more money was needed and a small charge was made on each prescription and finally taxes were raised. The people are paying more for poor medical care and doctors are wasting precious time and money treating petty and imaginary ills. People who would not think of consulting a doctor under our present system are taking up his time with every scratch and headache, with the result that others who seriously need attention often have to wait and suffer needlessly.

Idealistically, Socialized Medicine is fine but put into practice, it just doesn't work. To quote from a British accountant "I used to be a leading advocate of National Health Service. I made speeches in its behalf, I preached its gospel to everyone I met. I am ashamed of myself now. I want to do everything I can to correct this wrong. It was an Utopian idea, but not practical. I can see that now. This past winter both of my children fell ill at the same time. When I called my district doctor, he politely but firmly told me he could not find the time to come to my house to see them. His office was crowded with patients, and I could report him to the Ministry of Health if I wished but he intended to make no more home visits that day with an office overflowing with clamoring patients, many of whom had waited all day to see him. So, foolishly, I bundled my children into a cab and took them to see him. He gave them some medicines. They were very sick for a long time after that. In fact, I nearly lost both of them. The next time one of them became ill, I didn't hesitate, I called a private doctor and he came within the hour. Before you Americans go any further in adopting any schemes like ours you had better make certain you have at least double the number of Medical personnel and facilities you now have. Otherwise, you will have to spread out what you have got to achieve quantity at the expense of quality. And quality in medical care, I have found, may well mean the difference between life and death."(7)

The Medical profession and many other people realize that there is room for improvement in our present medical system and are working to alleviate this situation. However, it is not a simple matter to provide efficient and effective medical care for the poor and underprivileged

without politics becoming involved, and Politics and Medicine just do not mix. It will take time and much study and planning before a solution can be reached. In the meantime, while a solution is being sought, we should see that the voting public is not led astray by the sugar-coated promises of Socialized Medicine and should attempt to protect them from falling into a situation that offers less than we now have. If we are the healthiest large nation with the highest health standards, why jeopardize this by substituting Socialized Medicine for Private Medical Care?

At present America is spending a tremendous amount of money on Medical Research, but under Socialized Medicine this is almost impossible since there is never enough money to supply equipment, medicine, and care for the masses. Is it not better to eliminate a disease or the danger from that disease than to have to continue treating its victims? And, in the long run, isn't it cheaper? This definitely appears to be so.

If America, after looking at the experience of England, still proposes to try Socialized Medicine, it is walking into a trap that ten Communist fronts are working for.(8) Free men have added twenty years to the average life expectancy, eliminated the danger of disastrous epidemic from such diseases as Diphtheria, Smallpox, etc., and reduced the death toll greatly.

If we want to prevent our Government from becoming a Socialistic State, why advocate Socialized Medicine? Free men have made America a leader and free men are the only ones who can keep it that way. I am sure that no American — poor or otherwise — would be willing to trade Democracy for Free Medical Care.

In every major city of the United States, there are free clinics that provide excellent medical care for the poor — with the top medical men in the country offering their services without charge. Why trade this quality for quantity?

Many doctors never collect for some cases, and the average doctor is much more lenient in dealing with John Smith than is the tax collector.(9)

It is up to the individual to decide upon Socialized Medicine, but every man should be either for it or against it, according to his belief. Because, according to Dante "the hottest places in hell are reserved for those, who, in a period of moral crises, maintain their neutrality."(10)

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ARIZONA ACADEMY OF GENERAL PRACTICE

Excerpt from The Board Meeting, May 4, 1960

"In connection with the proposed fee schedule that was to come up before the Arizona Medical Association, a resolution drawn up by the Fee and Contractual Medicine Committee of the Arizona Academy of General Practice was discussed. This resolution after some discussion was adopted. It reads:

> 'Be it resolved that the Arizona Academy of General Practice is in favor of a relative values scale system for fees. It is further recommended that this be a continuing study, and that at periodic intervals, it be critically analyzed and necessary adjustments made'."

HOW MAJOR VOLUNTARY HEALTH AGENCIES SPEND THEIR MONEY

Name of Agency	Raised Funds	Fiscal Year Ending	Percentage of Funds Spent in Last Budget Year: Medical Treatment	Lay & M.D. Education	Research Grants	Community Services	Fund Raising	Other Purposes
National Foundation	$34,000,000	1-31-59	53%	12%	11%	7%	13%(4.7*)	4%
American Cancer	$30,373,000	8-31-59		30	28	24	10	8
National Tuberculosis Christmas Seal	$25,955,390	3-31-59	2	3	34	24	15	22
American Heart	$24,004,865	6-30-59		37.5	22.5	14.5	13	11.8
National Society for Crippled Children and Adults	$16,791,850	8-31-59	60.3**	2	7.4	3.3	15	12
United Cerebral Palsy	$ 9,508,000	9-30-59	35	7	13	29	11	5
National Assoc. for Mental Health	$ 5,510,470	12-31-59		22	38	19	7	14
Muscular Dystrophy Assoc. of America	$ 5,508,618	3-31-59	22	42	10	7	13	6
Sister Elizabeth Kenny Foundation	$ 4,975,000	12-31-59	47	16	24	1	9	3
Arthritis & Rheumatism Foundation	$ 3,605,612	6-30-59	30	29	11		14	16

*Headquarters only

**Includes sizable expenditures classified also as "Community Services".

Compiled by the A.A.F.R.C., with the co-operation of the agencies. Since there is no standard form of accounting, these reports are not necessarily entirely comparable.

PHYSICIANS' CONTRIBUTION TO MEDICAL EDUCATION BY STATES — 1959

State	Number of Contributors 1958	Number of Contributors 1959	Amounts of Contributions 1958	Amounts of Contributions 1959
Alabama	586	568	$ 8,387.16	$ 13,051.42
Alaska	7	16	1,414.50	1,668.15
Arizona	923	1,003	12,638.97	13,415.00
Arkansas	56	159	3,044.50	3,230.90
California	15,385	16,710	171,611.20	192,646.62
Colorado	787	807	21,326.70	23,372.50
Connecticut	718	1,160	16,271.53	29,175.26
Delaware	139	144	5,359.55	5,417.89
Dist. of Col.	249	198	11,412.50	9,275.00
Florida	198	266	6,978.15	10,468.15
Georgia	230	387	4,494.60	8,488.96
Hawaii	50	83	1,767.48	3,910.00
Idaho	156	105	3,031.45	2,918.59
Illinois	9,289	9,559	200,191.59	200,471.56
Indiana	4,054	4,126	50,259.97	51,661.90
Iowa	96	176	6,220.00	11,493.90
Kansas	591	579	15,251.22	16,525.10
Kentucky	58	124	2,425.68	4,004.20
Louisiana	120	177	3,725.87	4,322.47
Maine	53	61	1,232.75	1,606.30
Maryland	247	661	7,316.50	12,035.05
Massachusetts	181	237	7,767.91	9,078.19
Michigan	298	621	10,974.83	18,611.23
Minnesota	1,547	1,725	33,297.50	38,771.27
Mississippi	138	194	3,033.36	5,180.50
Missouri	240	308	9,049.14	11,334.45
Montana	115	137	4,259.46	3,882.24
Nebraska	174	296	9,506.06	12,124.00
Nevada	383	318	7,055.34	6,274.50
New Hampshire	119	144	2,635.06	3,201.00
New Jersey	213	214	48,697.16	18,368.41
New Mexico	150	143	7,446.00	6,337.38
New York	3,604	3,820	49,636.39	56.502.70
North Carolina	180	182	5,338.89	5,995.84
North Dakota	90	157	4,080.00	6,044.11

Ohio	1,085	1,340	41,651.20	51,062.63
Oklahoma	66	95	1,602.50	2,478.06
Oregon	151	325	6,539.00	9,197.65
Pennsylvania	2,030	2,048	63,699.70	63,257.64
Puerto Rico	3	4	33.00	115.00
Rhode Island	31	34	892.00	835.00
South Carolina	744	223	40,149.36	68,634.44
South Dakota	166	201	6,615.00	7,603.50
Tennessee	144	866	6,916.19	49,067.90
Texas	2,117	2,341	44,013.90	50,113.25
Utah	520	827	11,064.75	10,914.20
Vermont	129	136	2,507.00	3,046.82
Virginia	230	268	8,875.50	11,302.50
Washington	356	399	11,239.03	18,773.07
West Virginia	208	205	7,735.04	7,286.12
Wisconsin	216	317	8,611.23	11,814.33
Wyoming	104	200	2,671.32	3,416.80
Foreign	5	2	90.00	20.00
National Organizations		3		6,021.46
TOTALS	49,729	55,399	$1,020,044,69*	$1,195,824.79*

*Interest on securities not included.

AMEF — 1959
17.2% increase since 1958
36.7% increase since 1957

The conclusion of the 1959 year found a marked increase in funds contributed by physicians to medical education through the Foundation. The complete breakdown of designated contributions has not been compiled.

The Foundation closed the 1959 books on January 31st, 1960, with a total of $1,195,824.79, an increase of $75,780.10 over the 1958 total which included a gift from the American Medical Association of $100,000. *The total increase in contributed money, therefore, is $175,780.10, or a 17.2% increase over the contributed amount of the preceding year, not including the AMA grant.* The two-year increase in the actual amount of contributions, discounting AMA grants, is an extraordinary 36.7%.

We would not want it thought that the AMA, by allowing us to progress without the grant this year, has indicated any lesser interest in the welfare of the Foundation. To the contrary, all of our expenses — administrative and otherwise — are paid through the generosity of the AMA so that, as always, every dollar contributed goes directly to the schools.

These figures will be gratifying to everyone who has put forth time and effort to make the medical profession's support of medical education a significant amount. It represents an increase in almost every state, both in the number of contributors and the dollar amount received. This is a tribute to every individual worker, to every city and county chairman, to every state chairman, and to all of those who have given of their time to achieve this much needed financial aid to medical education. The medical society executive secretaries and their staffs have given their full cooperation, as have the officers of the various societies. This new total was only possible with the combined efforts of all of those who have worked so hard to acquire this fund in 1959.

The following tabulations set forth in detail the results of our year's work by state. 1958 figures are included for comparison. Figures for medical school designation and for general distribution will be reported to you later.

JAY B. OLIVER,
Associate Executive Secretary

AIR POLUTION IN ARIZONA III

Contrary to popular belief, the air we breathe is not free. Moreover, the cost of a decent breath of fresh air is steadily increasing. Every day, we citizens pay by way of increased taxes for the things now done to keep our air in an usable condition. And we also pay in other countless ways for our failure of not keeping the air in a good condition.

How can we ascertain the cost of air pollution? Unfortunately, the exact costs of air pol-

lution and its control are hard to determine. In 1949, the Department of Business and Industrial Economics at Stanford University Research Institute estimated that the cost per person at about $10 per year. Using similar data, the Armour Research Foundation in Chicago estimated that in 1958 the cost went up to $65 per person per year. This increase is due to the growth in population and expansion in heavy industry. As the two grow, the air over our cities is used more frequently and more intensively so that now protecting our air is becoming increasingly important, and also, increasingly costly. It can be said therefore, that the price of prevention is high, but the price of neglect is higher still.

Just how high can the price of prevention go? The chemical industry alone spends some $40 million a year to operate its air pollution controls, not to mention the cost of the equipment. The automobile industry is now actively engaged in research and development of a practical way to eliminate the fumes from cars and has spent a considerable amount of time as well as money on the problem. From reports of the progress at present on the problem, the outlook seems to be encouraging, but nevertheless, more time and money will have to be put forth to achieve the desired solution. In the foundry industry, about 10 per cent of the capital investment is used for processes and equipment to help reduce the amount of waste materials in the air. Along these same lines, a utility company in a large city recently spent a large sum of money in placing smoke elimination equipment in its power stations.

The exact influence of dirty air on the tourist trade here in Arizona and Phoenix in particular, is difficult to estimate, but its effects and direct costs must be enormous. The present favorable aspects of Arizona's climate is a big factor in the economy of the state and is well worth careful future consideration and protection.

One rather amusing incident showing that air pollution knows no bounds is in the fact that the problem is a well known one to the cosmetic industry. One major manufacturer spends over $25 per day, not including the cost of the equipment, to protect the residents of a local area from highly perfumed air. So it would seem that we humans can get too much of a good thing.

As has been stated previously, the exact amount that is spent on air pollution control by the various industries is difficult, if not impossible, to obtain. But through estimates furnished by several industrial concerns, a figure of certainly not less than $300 million is spent annually on the problem. The economic burden is also felt by local and state agencies as well as the federal agencies. All three agencies maintain inspection and other services that cost the taxpayer about $12 million yearly.

The deleterious agricultural affects can only be referred to as crop, animal, and insect damage and has only been roughly assessed.

What about the cost of neglect and how does it cost you and I? One estimate of professional air pollution engineers state the following: if all the dirt that accumulates in the air of an average city in a year's time were to settle to the ground suddenly, this city would have a 21 foot covering of debris and soot. Take all this airborne debris, added to the invisible and destructive gases, and you have an estimated $4 billion per year bill to be paid by industry and the public.

How can we arrive at such a huge sum? Here are the facts, most of which come from the daily papers and trade journals. Ask any white-collar worker who resides in a smokey city how much his cleaning bill is for a year. The public spends some $3 billion a year in cleaning and laundry bills alone. Most of this sum of money comes from people who reside in areas of high contamination. Ask any woman how often she has to clean her walls, curtains, and floors in this type of city and you can understand how the national cleaning bill averages $3 billion each year.

The Director of Smoke Control in New York City estimated that the population of the city could reduce their cleaning costs some $50 million a year if the city had active pollution control laws that were enforced. Strict pollution laws in other cities with a worse situation than New York City would save even more. Then too, many people are now making use of electronic dust and dirt removers in their homes. These devices remove almost all particles from the air by electrically charging them and causing their adhesion to removable, readily cleaned plates. No doubt these cleaners help the homemaker maintain a clean look inside by having clean walls and furnishings.

Property values must also be included in the cost of neglect. Nobody desires to live in a

stench-ridden or dirty city. One mid-western city estimated that it cost $25 million a year in property depreciation prior to its clean-air campaigns which are still operating on a successful basis. Now this city serves as a model for other cities to observe as to what can be done with a once serious problem.

The American people use approximately 300 million gallons of paint a year to hide and protect from the effects of oxidation and corrosion in one form or another. But despite the amount of preventives used to arrest corrosion, the annual bill runs well over $7 billion according to the paint industry. Some experiments have shown that unprotected ironwork corrodes six times faster in large cities than in rural areas. It was also shown that sulphur compounds corrode every type of building material, including cement and stone. Some corrosion will occur when as little as 0.5 parts of sulphur dioxide per million parts of air are present over a community. New York City frequently has 1 to 2 parts per million of sulphur dioxide present and on some occasions, 3 parts per million have been noted. One can only speculate as to the corrosion taking place at any given moment when the sulphur dioxide count is high.

Not to be overlooked, are the damage suits that occur and are caused by air pollution. Lawsuits resulting from the Donora, Pennsylvania smog in 1948 now total over $4 million. From that incident in 1948, it will be remembered that 20 persons lost their lives due to air pollution, and many more claimed injuries. Air pollution suits are commonplace in the Los Angeles area where it is estimated that half a million dollars damage is done to crops annually. Undoubtedly, there are many more lawsuits that are blamed to air pollution that the general public never hears or reads about.

As an aid to reducing the car exhaust nuisance, planning and the extensive efficient public transportation systems is imperative. The Los Angeles problem is made much worse by the use of private automobiles for daily commuting as medium-range public transportation is inadequate. The development and use of new methods of fast, regular transportation is needed right now here in Arizona. The author foresees the day when a mono-rail system could be effectilvely used in the greater Phoenix area. The advantages of such a system are enormous.

We must also consider the cost of health in the problem of air pollution. How we feel on a gloomy day when there is an excess of odors, aerosols, and other pollutants cannot be measured in dollars and cents. But it probably could be measured in job efficiency and perhaps, absences from work. We still do not know the long term results of breathing toxic pollutants in minute or small amounts, although there are higher death rates from diseases of the respiratory system in areas where there is a current problem of air pollution. It is well known, however, that persons afflicted with asthma, heart disease, sinusitis, and other chronic conditions feel the effect of air pollution more so than a normal healthy person.

It is estimated that Americans pay some $21 billion per year in medical expenses and some portion of that expense can be attributed to air pollution. Probably the exact amount will never be ascertained because of the complex causes of illness.

In conclusion, we have seen that it is impossible to determine the exact cost per person of air pollution. There are many factors that enter into the cost problem, but nonetheless, the factors are real and costly to each one of us. It should be apparent to nearly everyone that the third of a billion dollars now spent for prevention is way out of line with the estimated $4 billion now spent on neglect. Perhaps if more money were put into the asset side, our cost on the debit side could be reduced considerably.

The problem is yours: how much are you going to pay for it?

Next month the legislative aspects and final conclusions will be discussed.

TODAYS DRUGS

More than 85 per cent of the drugs in use today were unknown 20 years ago.

WHY ALDACTONE®
IN EDEMA

Because it acts by regulating a basic physiologic imbalance, Aldactone possesses multiple therapeutic advantages in treating edema.

Aldactone inactivates a crucial mechanism producing and maintaining edema — the effect of excessive activity of the potent salt-retaining hormone, aldosterone. This corrective action produces a satisfactory relief of edema even in conditions wholly or partially refractory to other drugs.

Also, Aldactone acts in a different manner and at a different site in the renal tubules than other drugs. This difference in action permits a true synergism with mercurial and thiazide diuretics, supplementing and potentiating their beneficial effects.

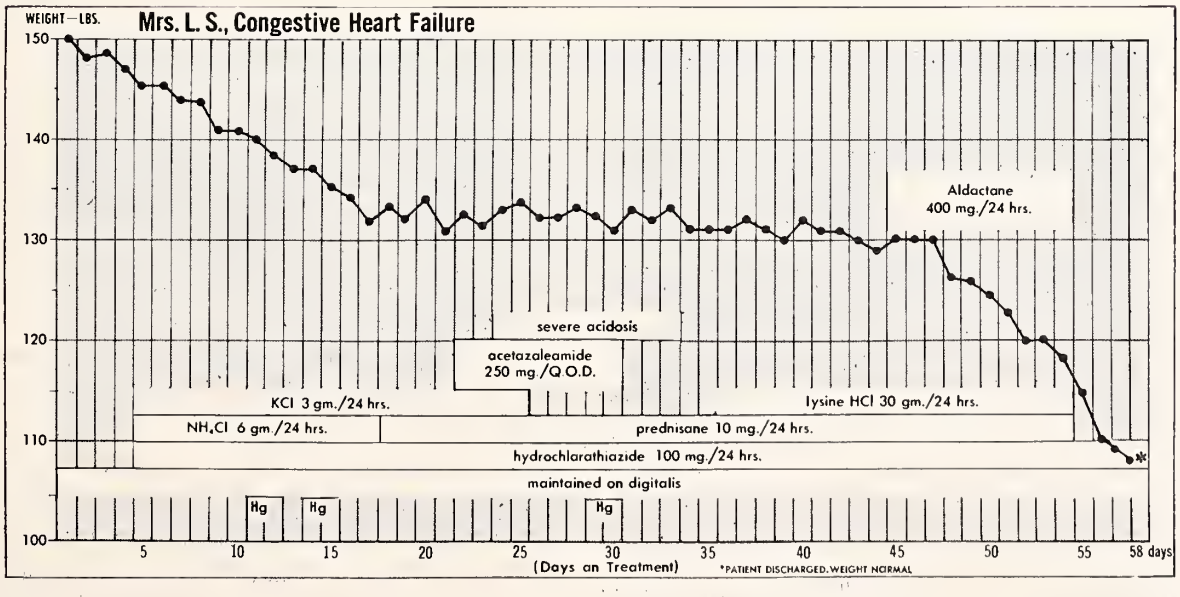
Further, Aldactone minimizes the electrolyte upheaval often caused by mercurial and thiazide compounds.

The accompanying graph shows a dramatic but by no means unusual instance of the effect of Aldactone in refractory edema.

The usual adult dosage of Aldactone, brand of spironolactone, is 400 mg. daily. Complete dosage information is contained in Searle New Product Brochure No. 52.

SUPPLIED: Aldactone is supplied as compression-coated yellow tablets of 100 mg.

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Reprints

Profession or Business

J. H. Means, M.D.**

Boston

The following article, "PROFESSION OR BUSINESS," the annual "Gay Lecture" published in the October 15th, 1959 issue of the New England Journal of Medicine, is reproduced by kind permission of Dr. J. H. Means, Jackson Professor of Clinical Medicine, Emeritus, Harvard Medical School, and Dr. Joseph Garland, Editor of the New England Journal of Medicine.

Nothing is more essential to the democratic principle than free and healthy criticism, the womb from which new ideas are constantly born. Those who would disagree with what Doctor Means has to say, will no doubt abide by the saying of Voltaire: "I disagree with what you say, but I will defend to the death your right to say it." These who agree with Doctor Means might derive some amusement from a possible subtitle to his article, "Aesculapian Staff or Caduceus!"

Comments or letters to the Editor are invited on your reactions to this or any other article appearing in our journal.

(A.J.B.)

Medicine, traditionally, has been considered to be a profession, even one of the so-called learned professions. Many definitions of profession can be found, but the idea common to them all appears to be that a profession is organized for service to humanity, whereas a business or trade is entered into for the sake of material profit. At first blush it might seem that there should be no confusion or overlapping between these, and I believe that until quite recently there has not been. The medical profession especially has valiantly put in writing its concepts of what constitutes proper professional behavior for the doctor of medicine. The late Willard L. Sperry, D.D., in his important little book entitled, "The Ethical Basis of Medical Practice," has this to say:

"Of all professional groups, that of medicine has, on the whole, codified its ethics more rigorously than has any other of the kindred professions. Lawyers and teachers have their codes of ethical practice. In the former instance they are probably less rigorous, and in the latter instance more vague than in the case of medicine. As for my own profession, that of the ministry, unofficial codes of ethics are as numerous as

* The George W. Gay Lecture, delivered at Harvard Medical School, May 13, 1959.

** Jackson Professor of Clinical Medicine, Emeritus, Harvard Medical School; honorary physician, Massachusetts General Hospital.

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the leaves of Vallombrosa, but they lack the authority of these other codes."

But as after Moses brought the Decalogue from God to man, lapses into the worship of Mammon came with increasing frequency, so also medical practice is presently slipping more and more from its high ethic into the behavior pattern of the market place. A nonmedical writer within a few months has even had the temerity to bring out a book entitled, "The Doctor Business." It is an item that is causing some disputation among reviewers. I believe, therefore, that it is appropriate in the Gay Lecture this year to examine critically to what extent and in what direction deterioration is occurring in the boundary that should separate profession from business in the realm of medicine.

ETHICS

Let us begin with a look at some of the existing codes of ethics. The oldest and most famous in our vision of history is the Oath of Hipprocrates. I assume that you all know it by heart. There were others before it among the Egyptians, Sumerians and Babylonians. But for us the take-off is customarily from Hipprocrates. The significance of the Oath of Hippocrates, composed in the fifth century B.C., is that in its major principles and in its spirit, it is perfectly valid today. It is a noble utterance. To be sure, Hipprocrates swears by Apollo and some other deities, which we don't have to do, but recall that Jesus told us not to swear at all — merely to tell the truth. So we are free to affirm the substance of the Hipprocratic Oath, and what's more, to govern our professional lives by it.

The "Principles of Medical Ethics" promulgated by the American Medical Association, as far as it goes, is also an impeccable document. I can subscribe to nearly all of it. It has been through various versions. In the last one — 1958 — it has been reduced to a decalogue, almost as pithy as that of Moses. You should read it. The first paragraph of an earlier version of the "Principles" contains a statement that I like especially: "The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals." Some of the state medical societies have codes of ethics antedating that of the A.M.A.

Now, however, in 1959, we find ourselves in situations that make full compliance with the traditional ethical standards of medicine ever more difficult. Society has been overtaken by a socioeconomic turmoil with various innovations and reactions. These create all manner of new pressures, which push the doctor about until he is fuzzy enough not to be able always to distinguish between the ethical and the unethical. On all sides he sees business, unhampered by any of the principles by which he himself is bound, getting progressively more aggressive in the pursuit of profits through ruthless competition. He sees predatory advertising invading more and more systems of the social body — transportation, roadside and all the mass media. He sees chiselers and racketeers boring through the otherwise healthy social organism in a great variety of directions. He himself is forbidden by all his ethical tradition to engage in advertising, or to solicit patients, which amounts to the same thing, but he has to live and function in a culture ridden by advertising. Indeed, the function he serves is a vital part of that culture. Under these circumstances it is not surprising to find him sometimes making departures from his traditional pattern of behavior, and this he does both as an individual and through his professional organizations.

Nothing puts more strain on the doctor's ethics than financial matters. You may recall that St. Paul assures us that love of money is the root of all evil, and we all know that the more competitive a society, the more the power of money will be felt. Two of the new pressures that impinge on the doctor arise from the problem of how he shall be paid for his services and how, or in what manner, his services shall be supplied.

The traditional method of paying the doctor has been by fee for each service as rendered. When a patient could not pay the fee, the doctor nobly reduced it or waived it altogether. In an older, slower moving and less specialized society, this method has been satisfactory both to doctors and to patients. When practiced honorably it is certainly above reproach from the point of view of ethics. But that is not to say that in present-day society it is necessarily the *best* way, although it still seems to be so regarded by many doctors. But from the patient's side there is steadily increasing dissatisfaction with it.

A considerable number of objections to fee-for-service solo practice of medicine can easily

be raised. It lends itself to abuse in various ways — fee splitting, for example. This is an ancient sin of medicine that is still with us, but I mention it in the present connection merely to illustrate again the ethical difference between profession and business. There is nothing unethical about the equivalent of fee splitting in business according to the ethical standards of business. It is merely granting a commission to someone who brings in more business. If a professional person, however, engages in such practices, it lowers his standards to those of persons who do business for profit. It puts the fee splitter in competition with other doctors and to trafficking with human life, health and happiness. Among other abuses we have such things as the rendering of a service and charging a fee for it, when the doctor, although the patient may not know it, is not really competent to perform it. Even in Hippocrates's day this problem must have been rife, for he said, "I will not cut for the stone but leave that to practitioners of that work." On fee-for-service there is also the temptation to do unnecessary surgery or provide other forms of unneeded treatment to increase the income from fees.

From the patient's side, fee-for-service also may have the ill-effect of keeping patients away from the doctor when they really need his care, just because they wish to avoid the paying of fees. Indeed, the early diagnosis of disease and the whole matter of preventive medicine may become obstructed by the fee-for-service system. On prepayment, on the other hand, these services are included in the comprehensive program and create no such difficulty. On fee-for-service a conscientious doctor may be sore perplexed to draw the line between what is proper safeguarding of his patients by calling them in for check-ups, and what is exploiting them by insisting on unnecessary visits.

The progressive fragmentation of medicine into ever-narrower specialties also makes the furnishing of comprehensive medical care on the fee-for-service solo-practice basis increasingly difficult. When one doctor could do nearly everything and people for the most part stayed put for long periods, this was quite easy. The day when that sort of thing was possible, however, is past. Although one generalist can still do much of it, he will frequently need help from specialists, often several in a single case, and when all these bill the patient independently, it imposes a quite unnecessary hardship on him. It has driven some patients to go on their own initiative directly to specialists, very probably the wrong ones, without either patient or doctor knowing that they are the wrong ones. Not infrequently nowadays patients engage in what is known as medical shopping. They make up a list of specialists of their own choosing, quite probably on the basis of information from friends, and consult as many of them as they think indicated. They may think that in this way they are getting adequate medical care, but they are not. Some of their parts may be cared for, but not they themselves. The specialists involved may not even have any communication one with another about the patient's problem, and in any event no one doctor is taking the responsibility of integrating the total care of the patient. Only an understanding personal physician can do that adequately.

It can be said, indeed emphatically, that one of the major ethical principles of medical practice is that the doctor must be alert enough to percieve his total responsibility in every case and have the determination to meet it fully. His responsibility even continues after death, because when a patient of his dies, it is his duty to make every effort to obtain an autopsy. The reasons for this are both scientific and moral. Scientifically, it is valuable always to have autopsies because clinical impressions will be checked against indisputable material evidence, and because there is always the chance that something new will be learned. It is morally important to have an autopsy because it takes courage on the part of the doctor to face one. The knowledge that he will have to do this puts him on his mettle always to give the best care he can. It is not good medicine to bury one's mistakes, sight unseen.

When skills other than his own are needed in the care of his patient, the doctor has the responsibility of obtaining the aid of others who can supply them. That is to say, he must call in consultants. Any reluctance to do this is unethical.

It is not enough, however, for doctors either as individuals or collectively, merely to avoid being unethical, to stay only within the letter, but not the spirit of the ethical code. "Such ethics," a philosopher, A. E. Meyer, has recently

said, "should rather be called practical rules to get along in life; they are selfishness brought into harmony with the demands of others, who claim equal rights and are willing to enforce them. It is the kind of ethics that has presented itself in international politics, demanding a world organization to prevent future wars."

Is the medical profession today morally bound to go beyond this sort of thing and voluntarily take certain positive actions to improve the provision of medical care in the country at large? If so, is it doing this? Of course, these questions can be evaded by asking whether there is really any need or room for improvement in the medical-care establishment of the United States. I hope that what I have already said will have convinced you that there is — from the point of view not only of getting integration of divers skills in giving care but also in putting payment for care on a basis financially fairer and more equitable to patients than the presently prevailing system of solo practice and fee-for-service, with free choice of doctor.

If actually there is room for improvement, what line shall it take? Probably there are several possible ways, and the indication is to try some of them out and discover what they have to offer. This actually is already being done in a somewhat spotty fashion, but only with vigorous opposition from organized medicine. A minority of the profession, but one growing in size, believes that the provision of medical care largely by groups of doctors, organized to include a proper proportion of generalists and specialists, and paid for their services on a prepayment plan of some sort, offers many advantages to both patients and doctors over the present system.

It is not my purpose, however, to discuss the pros and cons of any plans for the improvement of medical care at this time, and I am sure it would be unethical for me, within the framework of a Gay Lecture, to try to persuade you to take a particular side in a controversial matter. I wish merely to indicate the ethical principles that I believe to be involved. This can readily be done by asking the rhetorical question, What kind of ethics is it when organized medicine resorts to boycotting, lobbying, and other pressure tactics when honest attempts are made to improve medical care in the organizational and payment realms of medicine? What kind of ethics is it also when a county medical society not only refuses to co-operate with a group health plan being set up in its area by doctors of competence and integrity, but instead does its utmost to scuttle it? In such a case the health plan bids fair to raise the quality of medical care and make it more generally available. The people want it, but the medical society fights it just the same. This sort of thing happens repeatedly. Such self-protective behavior is expected in business. It has no place in professional work of high ethical character.

The distinguished jurist, Mr. Justice Frankfurter, who gave the Gay Lecture a year ago said, "My profession is pretty bad . . . but I am bound to say that I should be a little troubled if my profession lined up an advertising agency to work out its relations with the government." This refers to the episode in 1950 during the Truman administration when the officials of the A.M.A. raised an enormous "War Chest" to fight what they called "Socialized Medicine" and hired the advertising firm of Whitaker and Baxter to do it for them. They were for the moment successful, but at the cost of adopting behavior patterns more suitable to business or politics. The point I should like to make is that organized medicine should abide corporately by its code of ethics as assiduously as it expects its individual members to do. Any double standard in this regard is intolerable.

Thus far we have been considering ethics largely in relation to the care of patients, or practice of medicine in the usual sense, but medicine in its entirety encompasses much more than that, and ethics is involved also in these wider reaches. May I again recall the wisdom of Frankfurter. "I am not competent," said he, "to have any views on the very difficult problem of the relations between the medical profession and society. But the notion that it is just an individual affair between a patient and a doctor seems to be totally discredited by all we know." Justice Frankfurter has indeed here given us a strong hint of the multidimensional nature of our professional commitment, which, if heeded, cannot but intensify our interest and deepen our understanding both of our obligations and of our opportunities. Doctors, particularly organized doctors, are inclined to entertain the naive belief that they are quite competent to appraise objectively their own profession. But since medicine is one of the vital functions of the social organism, of concern to all its mem-

bers, this professional insularity has no valid vindication. It is significant, I think, that in the long list of Gay Lectures we find a goodly number of disciplines other than medicine represented. This has been particularly true in recent years. We are getting, it seems, increasingly willing to see ourselves as others see us. Indeed, starting from today, we have to go back five years to find another physician as Lecturer. A lawyer, a psychoanalyst, two parsons and a writer intervene. This is all to the good.

This vista discloses another great ethical principle — namely, that medicine is for everyone. It is not a private game preserve for doctors. And how much greater is the happiness to be got from it if it is practiced in a generous spirit! Where doctors develop a proprietary interest in their patients, as believe me they sometimes do, they downgrade medicine to the level of business.

MEDICAL EDUCATION

Let us now explore for a moment another great function of medicine — namely, teaching — and see what ethical principles may be involved in it. The medical profession is obligated to educate its own successors. Should it not do this the profession would die, for no one other than doctors of medicine can complete the education of doctors of medicine. The first stimpulation in the Oath of Hippocrates is "to reckon him who taught me this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required; to regard his offspring as on the same footing with my own brothers, and to teach them this art if they should wish to learn it, without fee or stipulation, and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons and to those of my teachers, and to disciples bound by oath and stipulation, according to the law of medicine, but to none others." In modern parlance I think we may interpret this to mean that we have the obligation to teach, whenever the opportunity presents, anyone rightfully involved in the medical educational process if he so desires it.

Not only have we this teaching obligation, but if we are in medicine because we love it, we should desire to do it. We should derive happiness from it. The relation between teacher and pupil can become as meaningful and endearing as that between doctor and patient. And the medical teacher is challenged above all others because he has to meet the needs at the same time of both pupil and patient when the latter is the subject of instruction, nor can he allow the best interest of the one in any way to infringe upon that of the other.

Another point is well illustrated by the oft quoted lines of Chaucer, "and gladly would he learn and gladly teach." Where can one find a nobler precept for medicine than this? It puts learning before teaching, and how wise this is, because teaching at its best is no more than the facilitation of learning. I was extraordinarily happy three years ago at being enrolled a "Perpetual Student of the Medical College of St. Bartholomew's Hospital" (London). The word perpetual is the significant one in this charming epithet. It implies, or at least expresses, the hope that one may continue to be able to learn as long as he draws breath. So I pray may it be with all of us.

It would not seem likely, offhand, that there had ever been fee-for-service problems about paying for instruction by students, comparable to that for medical care by patients, but such has indeed been the case. Of course, in the days when medical schools were not available to all wishing to study medicine, there was the apprentice system, but that is not what I have in mind at the moment. In the eighteenth and early nineteenth centuries, students in medical schools paid fees for instruction directly to their professors — a fee for each course of instruction. The great John Hunter's fatal attack of angina pectoris was induced by a quarrel with other members of the staff of St. George's Hospital over a problem of fees paid by students to teachers.

At Harvard also in the eighteen forties, students paid fees directly to their professors for courses of lectures and were given tickets of admission. For the course in anatomy and operative surgery by Dr. J. C. Warren they paid $15, and for that on materia medica by Dr. Jacob Bigelow the fee was $10 and so forth. But all that is long past history except perhaps in the case of certain graduate courses. Therefore, we may ask, if a better way than fee-for-service has been found for paying for instruction, why should not a better way than this be found also for paying for medical care?

We have today, moreover, an ethical problem concerning medical education at the collective level. The population, as you well know, is increasing at an explosive rate, and the need for well trained doctors is shooting upward. Medical education is the most costly of all education, and our medical schools are sorely pressed financially. No adequate aid is in sight short of federal subsidy. Yet organized medicine is so hostile to any further extension of government into medicine that it has opposed vigorously any help by the federal government toward cost of instruction in medical schools.

RESEARCH

The second precept of the A.M.A. decalogue tells us that "Physicians should strive continually to improve medical knowledge and skill, and should make available to their patients and colleagues the benefits of their professional attainments." Certainly, we can all say, "Amen" to this. The chief instrument to improve medical knowledge and skill is research, and this is another of the great functions of medicine. If without education we have no new doctors, so without research we have no progress. If we can say, "and gladly teach," so too we must say, "and zealously investigate." There are some ethical considerations about research that need to be mentioned.

The first of these is that the investigator must be scruplously honest in all he does, both intellectually and in every other way. Complete objectivity is an absolute necessity. One should undertake research to test hypotheses, not to prove them. The object is to find the truth without bias or slanting of data. When a research is undertaken to discover whether cigarette smoking causes cancer of the lung, and is financed by tobacco interests, its results cannot but be suspect. Great temptations lie in the path of the investigator. Let us suppose he discovers something of importance — perhaps a new form of therapy. He tries it out on patients (after having done so first on animals). Its administration is followed by improvement in some of them. In reporting his results he is under great emotional pressure to see the good results through rosy, and the bad through dark glasses, or to classify as good that which is actually equivocal. Results of research seemingly important should not be accepted as fully valid unless confirmed by other investigators. Never forget that in research adequate control of all observations and experiments is mandatory, and that in clinical research on patients it is sometimes very difficult to achieve.

Another temptation is to utilize research for purposes of personal advantage or advancement. This really is a tough one because the habits of faculties are such that a regrettable amount of weight is put on how much a man has published. It would hardly be human not to like success, recognition and fame in research, but these should not be ends in themselves, but merely pleasant by-products. Nor should we in medicine keep our findings up our sleeve, as does business its trade secrets. At all states of investigation we must be willing to exchange information with colleagues. This precept is indeed directly implied in the A.M.A.'s "Principles" (Section 2). Priority is dear to the hearts of all investigators, and why not? It is very commendable to be the first to uncover some new truth, and one may get a Nobel Prize for it, but the goal should be the new truth, not the kudos of priority. Moreover, in all research conducted in the professional spirit, investigators should give freely and generously full credit to other investigators whose work is in any way relevant to their own. To repeat the work of others without prejudice and publish findings with complete honesty is right and proper, indeed necessary. To belittle it in order to build up your own is, in the professional way of life, ignoble. In business, on the other hand, it seems to be rather normal, or at least frequent. Actually, to most discoveries many investigators contribute, and all deserve credit for what they have done.

PHARMACEUTICAL ADVERTISING

Increasingly in these days medicine is being confronted with difficult questions in ethics though the impact of the pharmaceutical industry. Its advertising infiltrates our medical journals, and many of them could not survive without the income it brings in. Practitioners receive daily through the mail vast quantities of multicolored beguiling advertising literature, well laced with free samples of decorative and expensive pharmaceutical preparations with trade names often difficult of comprehension, and complete with directions how to use them

and with hand-picked bibliographies. For the doctor to prescribe such material solely on the recommendation of the manufacturer is to slight, in some measure, his duty by his patient. The rightful way for him to order drugs is to discover, from objective sources, their composition and pharmacologic action, and order them only to meet indications for treatment that he clearly recognizes. Then there are the detail men, usually delightful and co-operative fellows, who give you more advice and free samples, which, if you accept them, influence you somewhat to favor the detail man's house in your prescription writing.

The other side of the picture, however, is that the more reputable drug houses have made great strides in raising their ethical standards, and have done invaluable work in devising and testing new drugs in their research departments. They can get high-grade investigators because they can pay better salaries than universities or noncommercial research institutes. Furthermore, so lucrative has the pharmaceutical industry become, and so enlightened, that it makes larger and larger grants-in-aid to noncommercial research projects. Thus, even the universities become beholden to some extent to the industry. How good this is I confess I don't know, but I am strongly of the belief that it is necessary for medicine to work toward some form of ethical symbiosis with the pharmaceutical industry, if this can produce new scientific knowledge that medicine simply cannot afford to do without.

PATENTS

And this brings us to a special subject that sharply emphasizes the difference between business and profession — namely, patents. If a medical investigator develops a new drug or method, he is ethically bound to tell the professional world about it. He is prevented by his own ethical standards from patenting it. But if a drug house does such a thing, it would be, by business standards, insane not to apply immediately for a patent. But unless a discovery of noncommercial research is protected in some way, industry may patent it and make profits out of something to the discovery of which it has not contributed. Some ways have been found to escape from this dilemma. Patents can be taken out to protect a product, but dedicated to the public. This ensures that no one can gain a monopoly in its production. A well known example was insulin, which was patented by the University of Toronto to ensure its availability to all without anyone having any special privileges.

THE PRESS

Another somewhat special topic is the press and other mass media. In the past the doctor has been supposed to keep himself out of the press as far as possible, at least not to use it as a means of popularizing himself. But nowadays when he cares for VIPs, he cannot keep himself out of the mass media, and this through no fault of his own. Also, often he is pushed into public writing or speaking by the institutions with which he is associated — hospitals, medical schools and so forth, which have money-raising campaigns under way and want him to glamorize what they are doing for the advancement of medical science.

All the mass media also carry a steadily increasing volume of medical items, purportedly for purposes of public education. Some of these are excellent; some are dreadful. The great question is whether the total impact on the public of all this is good or bad. When it provides the stimulus that brings the patient to the doctor while his serious disease is still curable, it is good. When it leads to the pressurizing of doctors by patients to give treatment the doctor knows is not really indicated, it is bad. It has come to pass nowadays that patients, having soaked up some of the mass-media pronouncements, go to the doctor and tell him how to treat them. "Doc I want a shot of penicillin." The doctor may know that this is neither needed nor desirable, but he also knows that if he doesn't give it, the patient will be off to another doctor who will. So the first doctor may give it even against his best judgment. Actually, he is on a hot spot. Of course in this case the ethics is clear enough. He should refuse to give it even though it means the loss of a patient. If he were not on fee-for-service there would be less of a problem.

The mass media can be very damaging also to the investigator. They will quote him out of context, give undue emphasis to parts of his remarks, and let headline writers commit veritable mayhem on what he has actually said: "Great breakthrough in cancer just around the corner," and all that sort of rubbish. Beware of them!

THE PATIENT AND THE TRUTH

A very controversial ethical question is that of truth telling to patients. You will find entirely reputable and earnest doctors who believe in lying to patients when it is, in their opinion, to the patient's good. The other extreme is best typified by the late Dr. Richard C. Cabot, of Harvard, who believed that the doctor should always tell the patient the truth, the whole truth, and nothing but the truth. This is a naive position, because who ever knows, in the progress of a patient, what the whole truth is? I am sure some of the "truth" that Dr. Cabot told just wasn't so. For him things were either black or white, but the world is mostly gray. Personally, I am thoroughly opposed to the intentional practice of deceit in doctor-patient relations, but also I have constantly in mind that admonition of Oliver Cromwell, who said, "By the bowels of Christ my brethren bethink you, you may be mistaken." Also I cherish the dictum of the late Lawrence J. Henderson, "In the practice of medicine do as little harm with words as possible." Thus, I would say, beware of making traumatic remarks within the hearing of patients that they have neither asked for nor need to know. I am sure that this is one of the commonest professional sins that any of us commit. Beware particularly of ever making a prediction of how long anyone is going to live. Nature is capable of letting you down badly. Many a patient has outlived the doctor who "gave him but a year to live." Remember always that it is not what you say to patients that is important, but what they think you said. Your silences also may be as traumatic as your words. How often does a patient when asked, "What did the doctor tell you?" reply, "He didn't tell me anything!" The wise doctor will sense when the patient needs to be told something, and he will do this in as reassuring a way as the basic framework of truthfulness permits. Do not be afraid of saying, "I don't know," when that is the truth. Moreover, always be ready to listen, and to answer questions as wisely as you can.

Related to what you shall say, or not say, to the patient is what you shall say, or not say, about him to other people. Hippocrates puts us straight on this without need of alteration or interpretation: "Whatever, in connection with my professional practice, or not in connection with it, I may see or hear in the lives of men which ought not to be spoken, I will not divulge, as reckoning that such should be kept secret."

Another ethical or moral question, quite shocking in nature, is what we shall do about the elderly or hopelessly ill patient who longs for an end to his suffering in death. Shall we let him die, merely easing symptoms as he goes, or shall we force him to suffer yet a little while longer because science has given us such things as antibiotics and oxygen tents that will do this? Euthanasia, as you well know, is a hotly debated matter. Whether it may or may not be practiced is for society, not the medical profession, to decide. It is within the doctor's prerogative, however, to determine what treatment he will or will not use, and if under the type of circumstance I have indicated, he elects not to use the life-prolonging methods, can any honest and reasonable person say he has done wrong? "Lord, now lettest thou thy servant depart in peace, according to thy word," so said St. Luke, "the beloved physician," and he expresses my own thoughts on the subject perfectly. And that pungent playwright B. G. Shaw put it this way:

"Thou shalt not kill but needst not strive
Officiously to keep alive."
Doctors have plenty of dilemmas.

DISCUSSION

I will finish this discourse with a few more transcendent considerations. Medical ethics is, I suppose, a part of ethics, and ethics certainly is a branch of philosophy; therefore, we may philosophize a bit. I am sure few, if any of us, are philosophers, but it is given to any man to apply his own homely philosophy to what he is doing and see what he can come up with in the way of convictions, motives and satisfactions. Recognition of these qualities of mind comes through insight, and certainly no one needs insight more than the physician. "Physician, know thyself" is perhaps the simplest way to put it. Although in a profession, especially in those called learned, of which medicine is one, the less conformity is required the better, nevertheless when in the practice of such a profession the lives, welfare or happiness of other people are involved, it becomes necessary for that profession to impose upon itself, or when it fails to do this for society to impose upon it, certain minimal standards of competence and certain rules of minimal acceptable professional be-

havior. It is these necessities that have given rise to the codes of medical ethics of which we have been speaking. I am convinced, however, that if a physician is of good conscience, there is little likelihood that his behavior will sink to a level where the ethical code need be called into play to correct it. At least this is true so long as he acts as an individual and follows the dictates of his conscience. If he has no conscience, he should not be in medicine. Unfortunately, as we have seen, when he organizes and acts collectively, the conscience of the herd, through a homogenizing process, may become sufficiently benumbed to permit some deterioration in ethical standards.

The quality of medicine in the mass, however, will depend largely on the motivation and character of the individuals who serve it, and the chief point I want to make is that the highest motivation possible is that one shall love medicine and find happiness in performing any of its many functions. This is indeed the essence of professional motivation and of what determines the professional way of life. It is what sets the profession in a higher ethical bracket than occupations entered merely to make a living. To be sure, the doctor must have an income sufficient to permit him and his family to live comfortably and happily, and to have enough leisure to keep in close rapport with the culture in its various dimensions. There is usually no great difficulty about this. It is a setback for medicine, however, when the doctor permits himeslf to become intellectually and emotionally isolated.

As I look around at my many friends in medicine — those who are older (not so many of these now), contemporaries and the steadily growing number of younger ones, many of whom have been my pupils — I am increasingly convinced that those who get the most out of medicine, and more particularly those who give the most to it, are those who love it. Medicine is indeed a profession — not a business. Let us keep it so.

And in conclusion I again quote Hippocrates: "While I continue to keep this oath inviolate, may it be granted to me to enjoy life and the practice of the art, respected by all men at all times, but should I trespass and violate this oath, may the reverse be my lot."

FREEDOM OF CHOICE

Arthur Kemp, Ph.D.

At Atlantic City in June, and again at Dallas in December, the American Medical Association's House of Delegates proclaimed and reaffirmed the belief that the "free choice of physician is the right of every individual" and that such freedom of choice, together with free competition among physicians, constitute prerequisites to "optimal medical care." In so doing the House of Delegates, by inference, took a position in favor of individual freedom of choice in general and expressed a preference for maintaining a social, political, and economic framework in our society conducive to the preservation of such freedom of choice. *(The Journal of the American Medical Association, Vol. 172, No. 9, February 27, 1960, pp. 942-3)*

Future Medical Meetings and Postgraduate Education

FOURTH NATIONAL CANCER CONFERENCE

Sponsored by the American Cancer Society and the National Cancer Institute, the Fourth National Cancer Conference will be held in Minneapolis, September 13, 14 and 15, 1960, at the University of Minnesota. Theme: Changing Concepts Concerning Cancer.

Program:

General Session: Address: Changing Concepts Concerning Cancer; Cancer Etiology.

Panels on: Cancer of the Breast; Cancer of the Lung; Cancer of the Female Genital Tract.

General Session: Address: Frontiers in Biology and Cancer Research; Cancer Pathogenesis and Spread.

Panels on: Cancer of the Gastrointestinal Tract; Cancer of the Male Genitourinary Tract; Leukemias and Lymphomas; Cancer in the World Around Us.

General Session: Address: Care of the Advanced Cancer Patient; Cancer Therapy.

Panels on: Cancer of the Skin; Cancer of the Head and Neck; Cancer Control.

General Session: Summary Session.

AUGUST 15-20, 1960
9TH WESTERN CARDIAC CONFERENCE
DENVER, COLORADO

The Ninth United States Civil Defense Council Conference, Medical-Health Section, will be held September 21-22, 1960, at the Leamington Hotel, Minneapolis, Minnesota. Emphasized will be chemical, biological and radiological warfare and defense and civilian medical problems; also aspects of emergency health services such as the community program, man-power management, mobilization training, resources management and engineering and sanitation.

UTAH STATE MEDICAL ASSOCIATION
65th Annual Scientific Meetings
SEPTEMBER 21, 22, 23, 1960
SALT LAKE CITY, UTAH

ARIZONA ACADEMY OF GENERAL PRACTICE 1960 ANNUAL MEETING

October 13, 14 and 15 are the dates scheduled for the 1960 meeting of the Arizona Academy of General Practice. This will again be held in the Valley Ho Hotel in Scottsdale, Arizona. An excellent scientific program is being arranged.

ARIZONA REGIONAL MEETING AMERICAN COLLEGE OF PHYSICIANS

This one-day meeting is scheduled for October 8, 1960, beginning at 9:00 A.M. A luncheon meeting is planned for members of the Arizona Chapter of the Society of Internal Medicine and a banquet in the evening for fellows, associates, invited guests and their wives.

Dr. W. Roy Hewitt as Governor for Arizona will conduct the meeting. Drs. Hayes Caldwell and Ashton Taylor of Phoenix and Orin J. Farness of Tucson will be the program committee members. Dr. Leslie R. Kober of Phoenix and Dr. Roland Murphy of Tucson will handle the arrangements and registration.

All members of the Arizona Medical Association are invited to attend the scientific sessions both morning and afternoon. There will be no registration fee. Tentatively the meeting is planned for the Hotel Valley Ho in Scottsdale.

1961 ARIZONA CANCER SEMINAR

"Canging Concepts in Tumor Formation and Therapy" is the theme for the Ninth Annual Arizona Cancer Seminar to be held at the Tidelands Motor Inn, Tucson, January 12, 13 and 14.

The faculty participants will include Drs. Jeanne C. Bateman (chemotherapeutic drugs), C. Howard Hatcher (bone pathology and bone tumors), Charles Heidelberger (chemotherapy), Roy Hertz (endocrinology), Paul Kotin (environmental factors as they relate to cancer), and Arnold D. Welch (aspects of chemotherapy and biochemistry).

AMERICAN COLLEGE OF SURGEONS

The 46th annual Clinical Congress of the American College of Surgeons will be held in San Francisco, California, October 10 through 14. Headquarters for the meeting will be the Civic Auditorium, with some sessions scheduled at nearby hotels.

More than 1000 participants will take part in the various programs, and nine postgraduate courses will be offered.

REGIONAL LATE SUMMER AND FALL MEETINGS

August 15-19, 1960 — Western Cardiac Conference, Denver, Colorado.

August 31-September 6, 1960 — Pediatrics, Estes Park, Colorado.

September 7-10, 1960 — Annual Meeting, Nevada State Medical Association, Las Vegas, Nevada.

September 7-10, 1960 — Annual Session, Wyoming State Medical Society, Moran, Wyoming.

September 11-14, 1960 — American College of Obstetrics and Gynecology, Denver, Colorado.

September 14-17, 1960 — Annual Session, Colorado State Medical Society, Estes Park, Colorado.

September 21-23, 1960 — Annual Session, Utah State Medical Association, Salt Lake City, Utah.

November 3-5, 1960 — University of Colorado Medical Center — Fractures, Denver, Colorado.

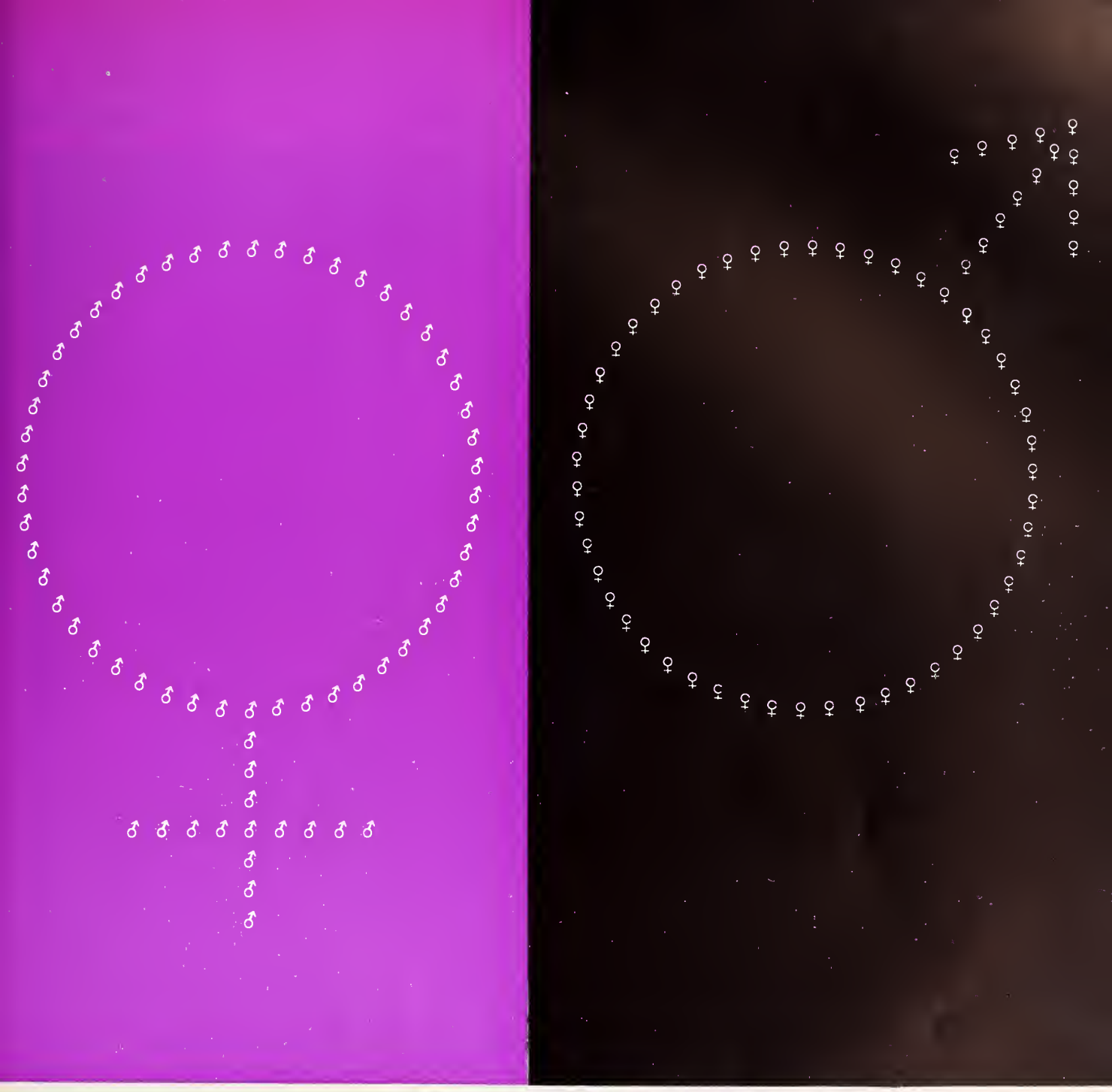
November 17-19, 1960 — Tenth Annual Convention, National Association for Mental Health, Denver, Colorado.

November 27-December 1, 1960 — Western Society for Pediatric Research, Denver, Colorado.

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* Marmell, M., and Prigot, A.: Tetracycline phosphate complex in the treatment of acute gonococcal urethritis in men. Antibiotic Med. & Clin. Ther. 6:108 (Feb.) 1959.

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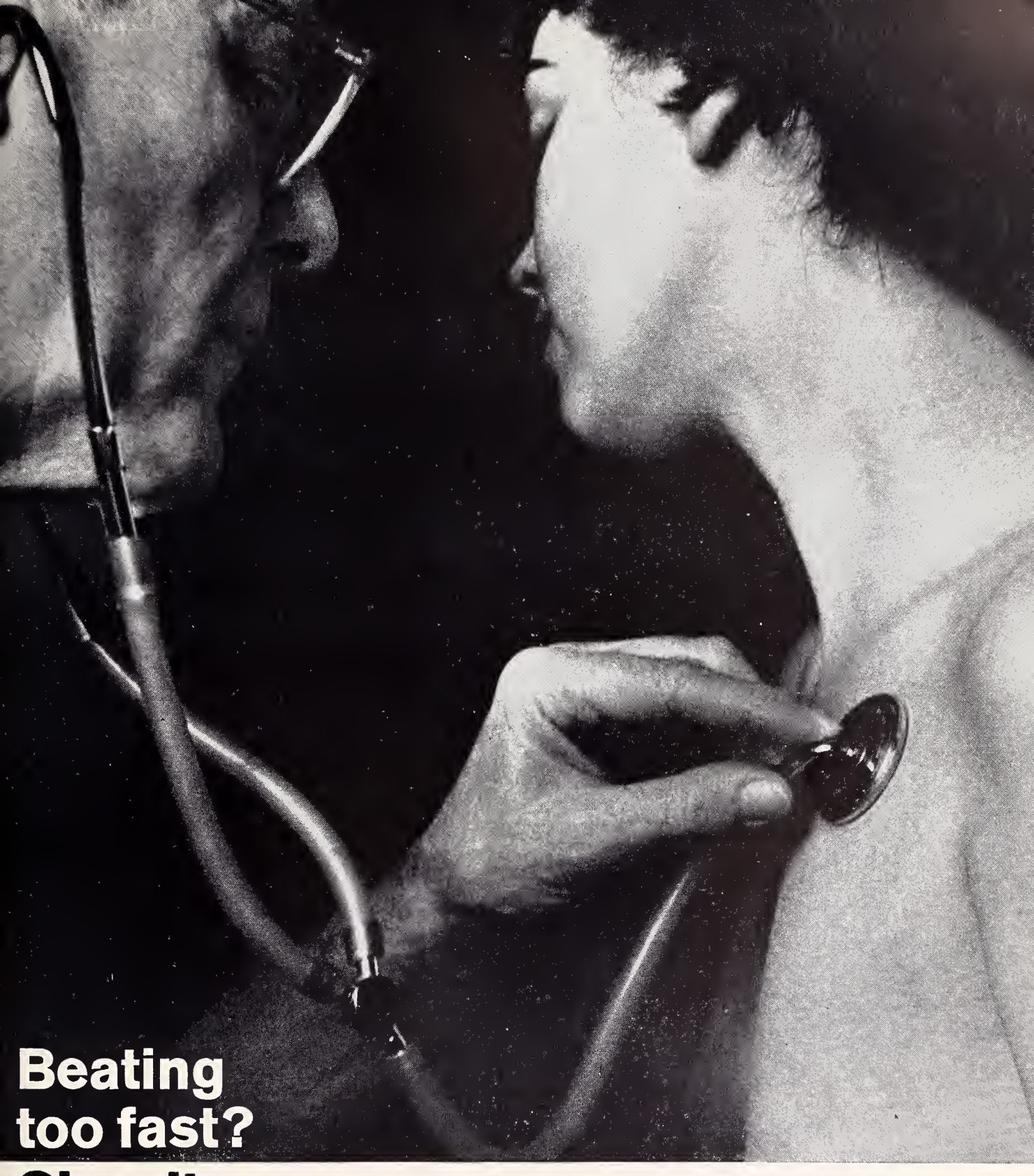


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Many of you may have seen a recent cartoon depicting a midnight scene in front of a pharmacy. A woman is pounding on the door and the pharmacist is leaning out the window of his apartment over the store. "Open up," shouts the woman. "My husband is sick and I need a stamp so I can send this prescription to the mail order house."

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1. Lippmann, O.: Arch. Ophth. **57**:339, March 1957.
2. Gordon, D.M.: Am. J. Ophth. **46**:740, November 1958.

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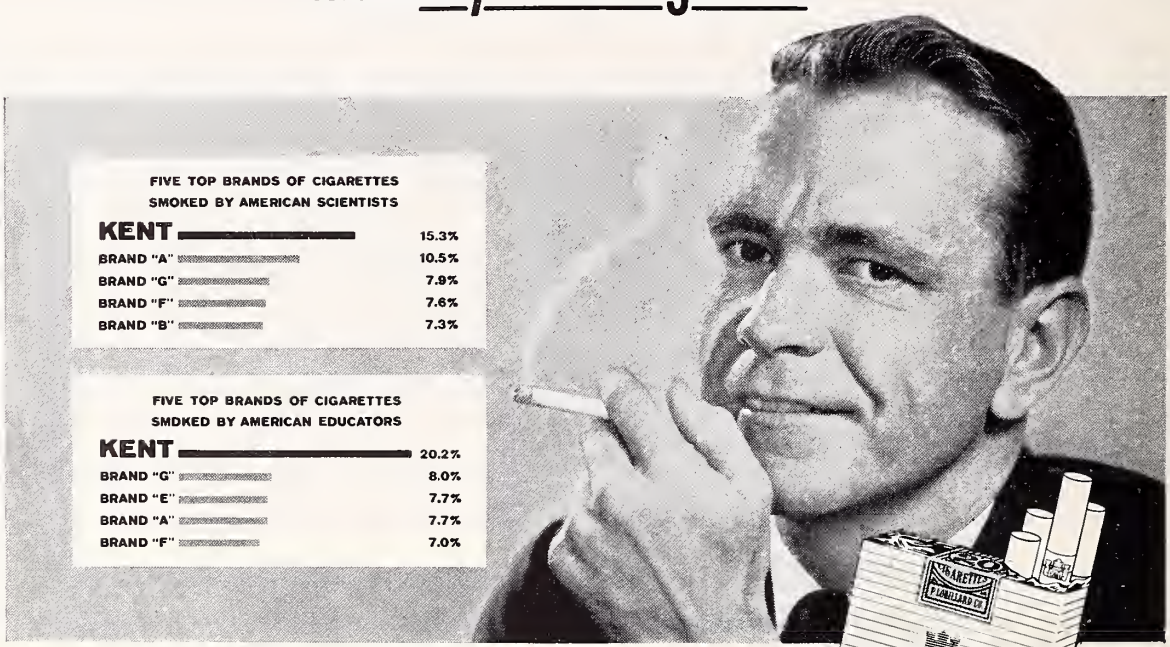
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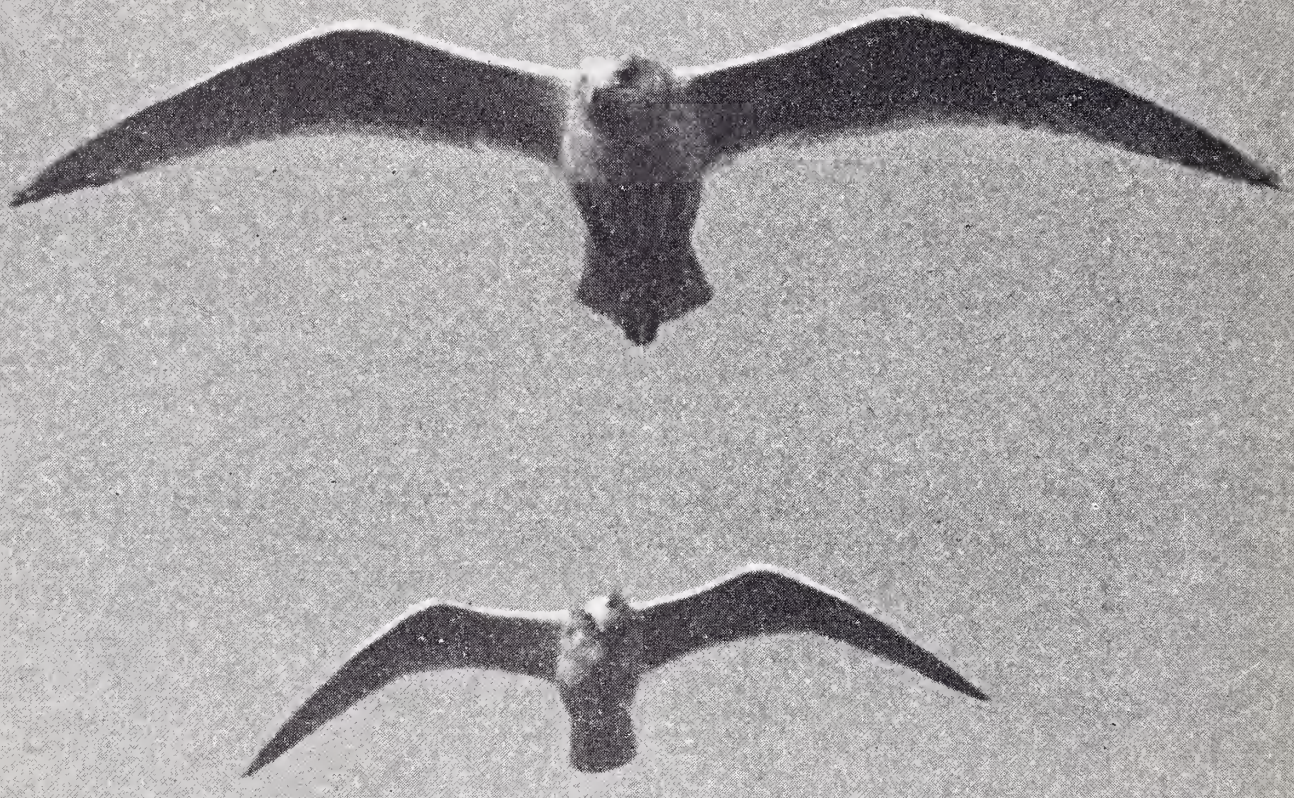
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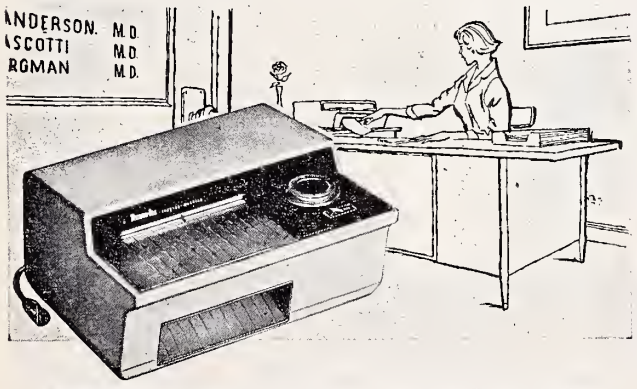
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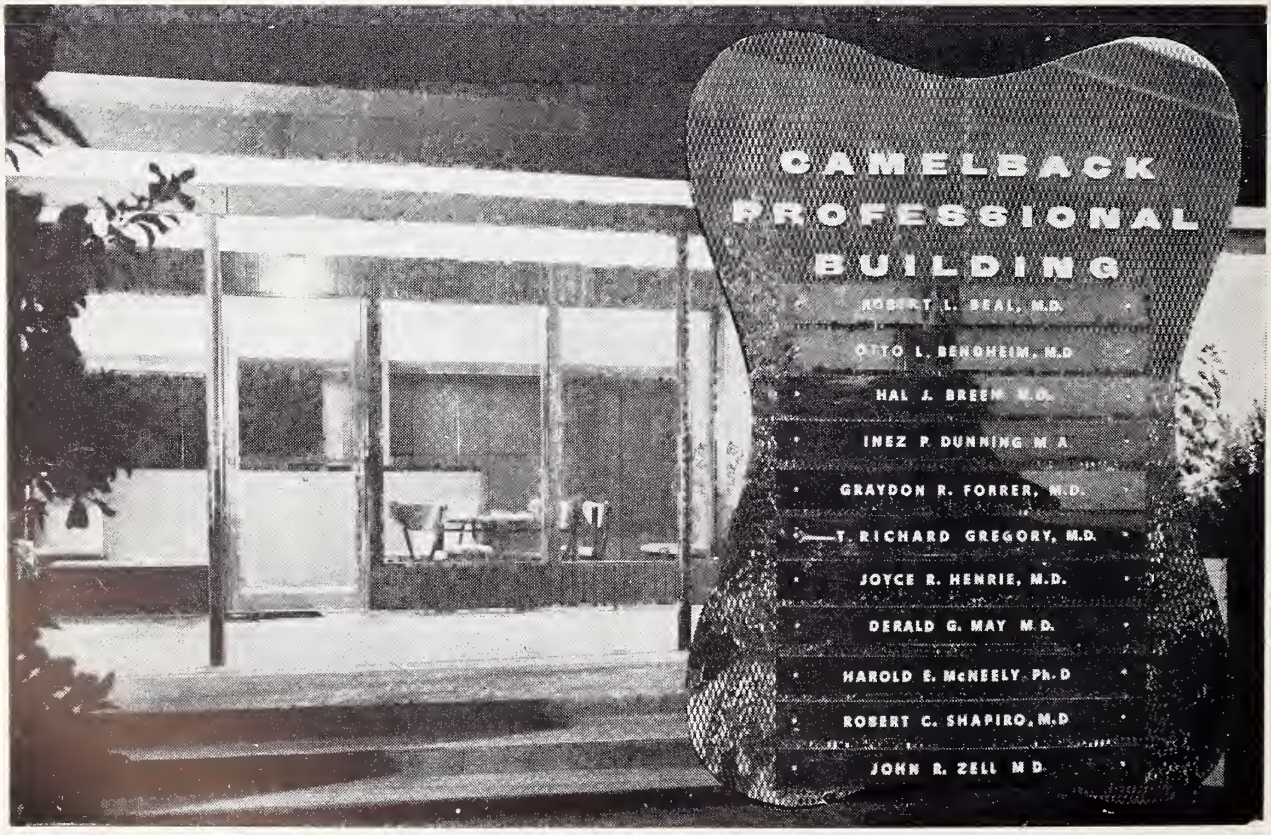
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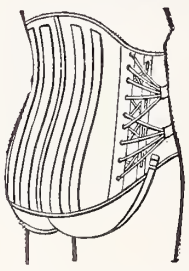
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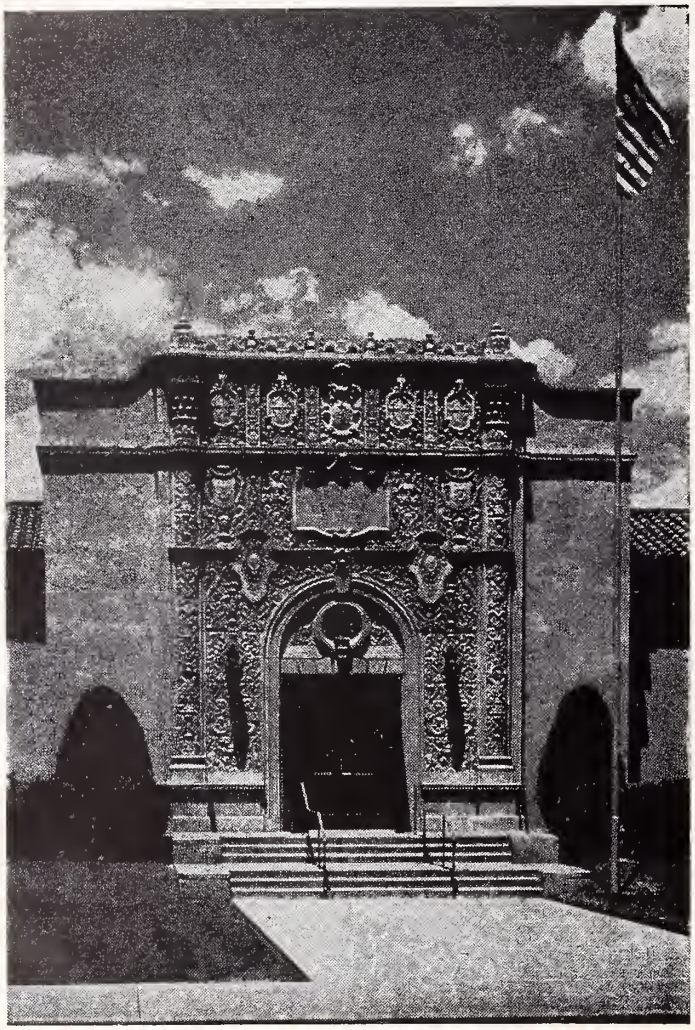
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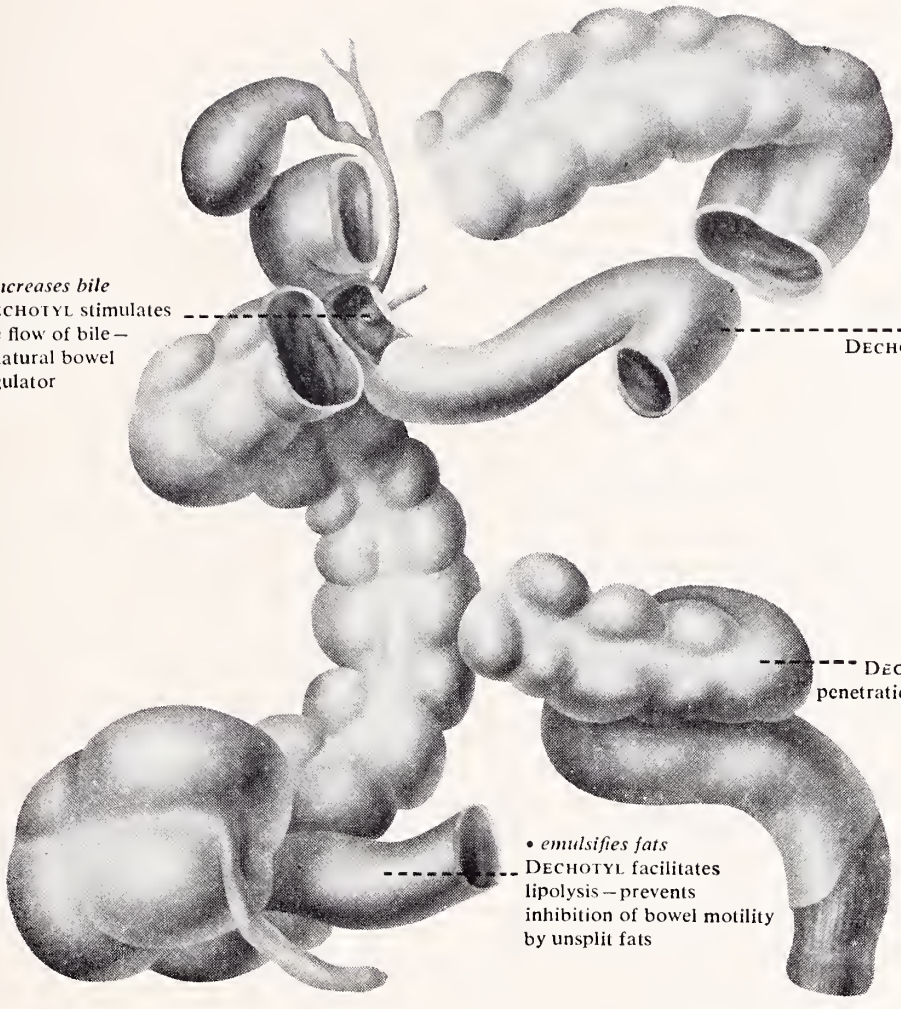
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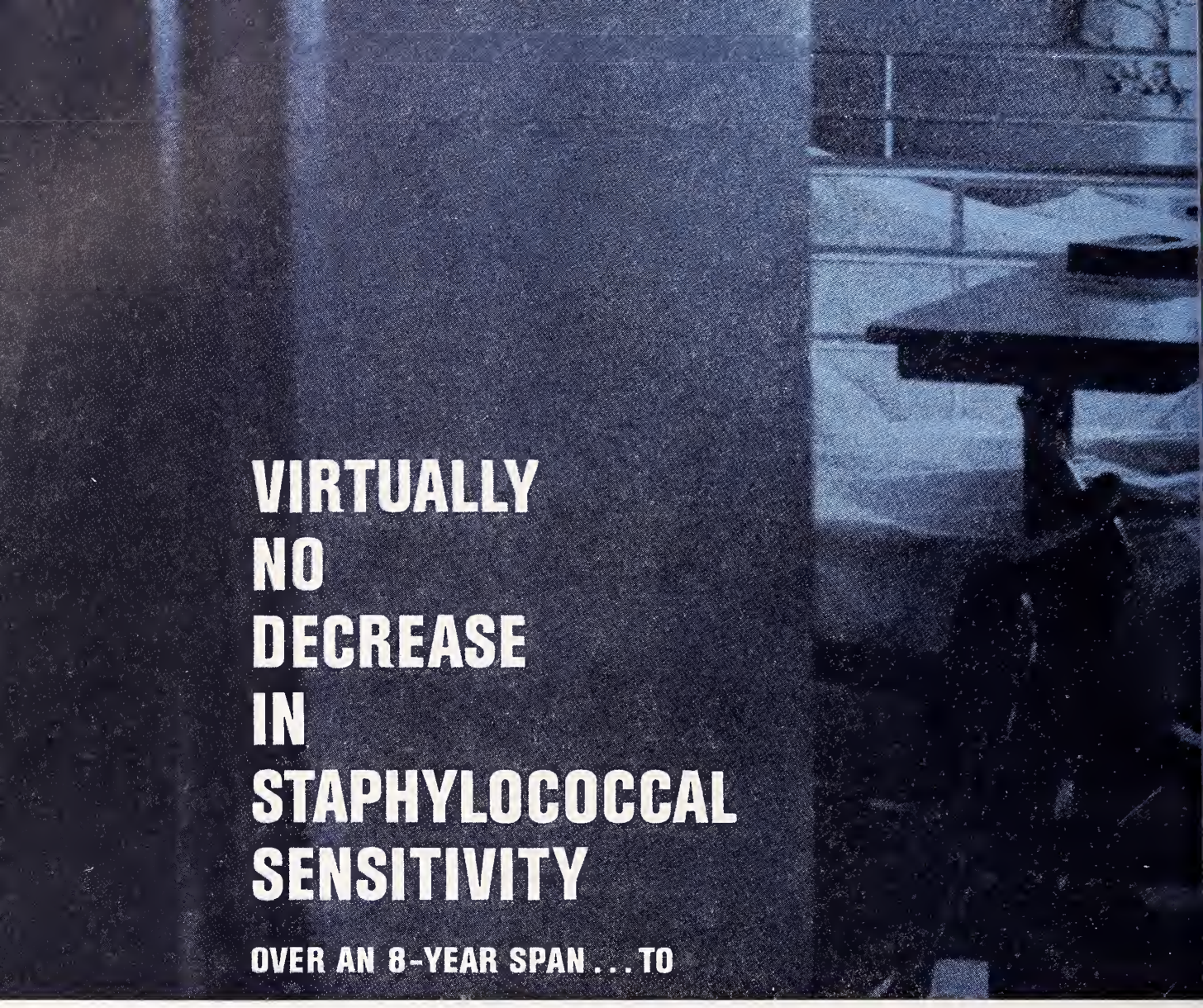
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References: (1) Welch, H., in Welch, H., & Finland, M.: Antibiotic Therapy for Staphylococcal Diseases, New York, Medical Encyclopedia, Inc., 1959, p. 1. (2) Rebhan, A. W., & Edwards, H. E.: *Canad. M. A. J.* **82**:513, 1960. (3) Fisher, M. W.: *Arch. Int. Med.* **105**:413, 1960. (4) Finland, M., in Welch, H., & Finland, M.: Antibiotic Therapy for Staphylococcal Diseases, New York, Medical Encyclopedia, Inc., 1959, p. 187. (5) Bercovitz, Z. T.: *Geriatrics* **15**:164, 1960. (6) Glas, W. W., & Britt, E. M.: Management of Hospital Injections, in Symposium on Antibacterial Therapy, Michigan & Wayne County Acad. Gen. Pract., Detroit, September 12, 1959, p. 7. (7) Staphylococcal Infections in Pediatrics, Scientific Exhibit, Commission on Professional and Hospital Activities, 108th Ann. Meet., A. M. A., Atlantic City, June 8-12, 1959. (8) Robinson, H. M., Jr.; Robinson, R. C. V., & Raskin, J.: *Postgrad. Med.* **27**:522, 1960.



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MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

September, 1960 Vol. 17, No. 9

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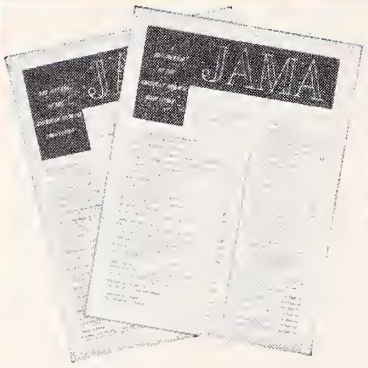
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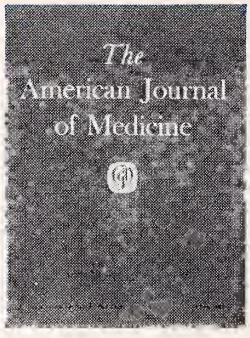
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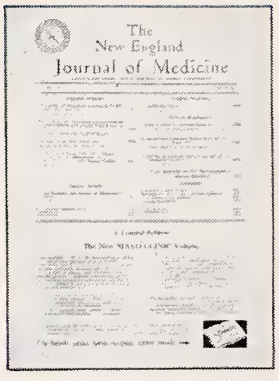
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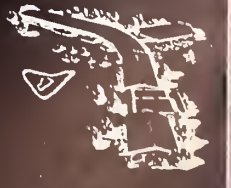
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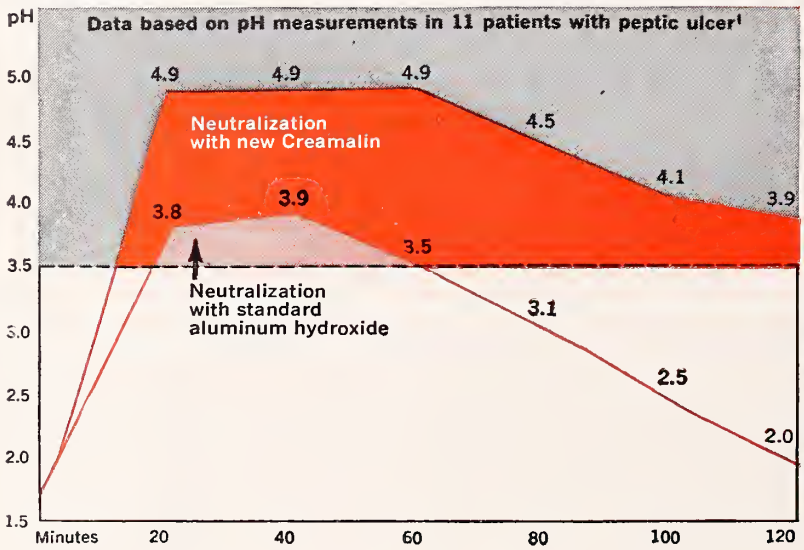


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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: **J. Am. Pharm. A.** (Scient. Ed.) 48:384, July, 1959.

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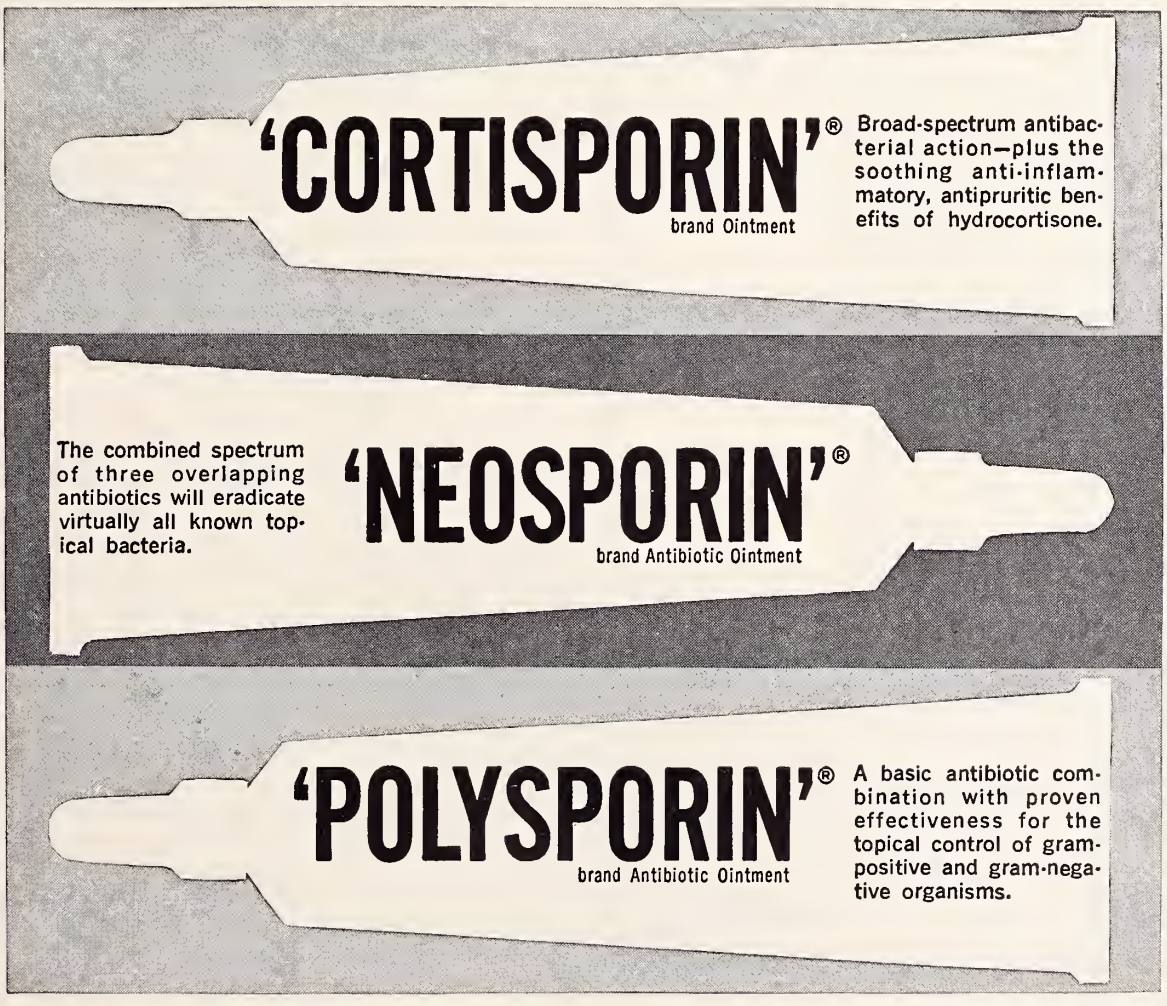
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*Coan, J. P., McAlpine, J. C., and Boone, J. A.: J. South Carolina M. A. 51:417 (Dec.) 1955. /2830M8

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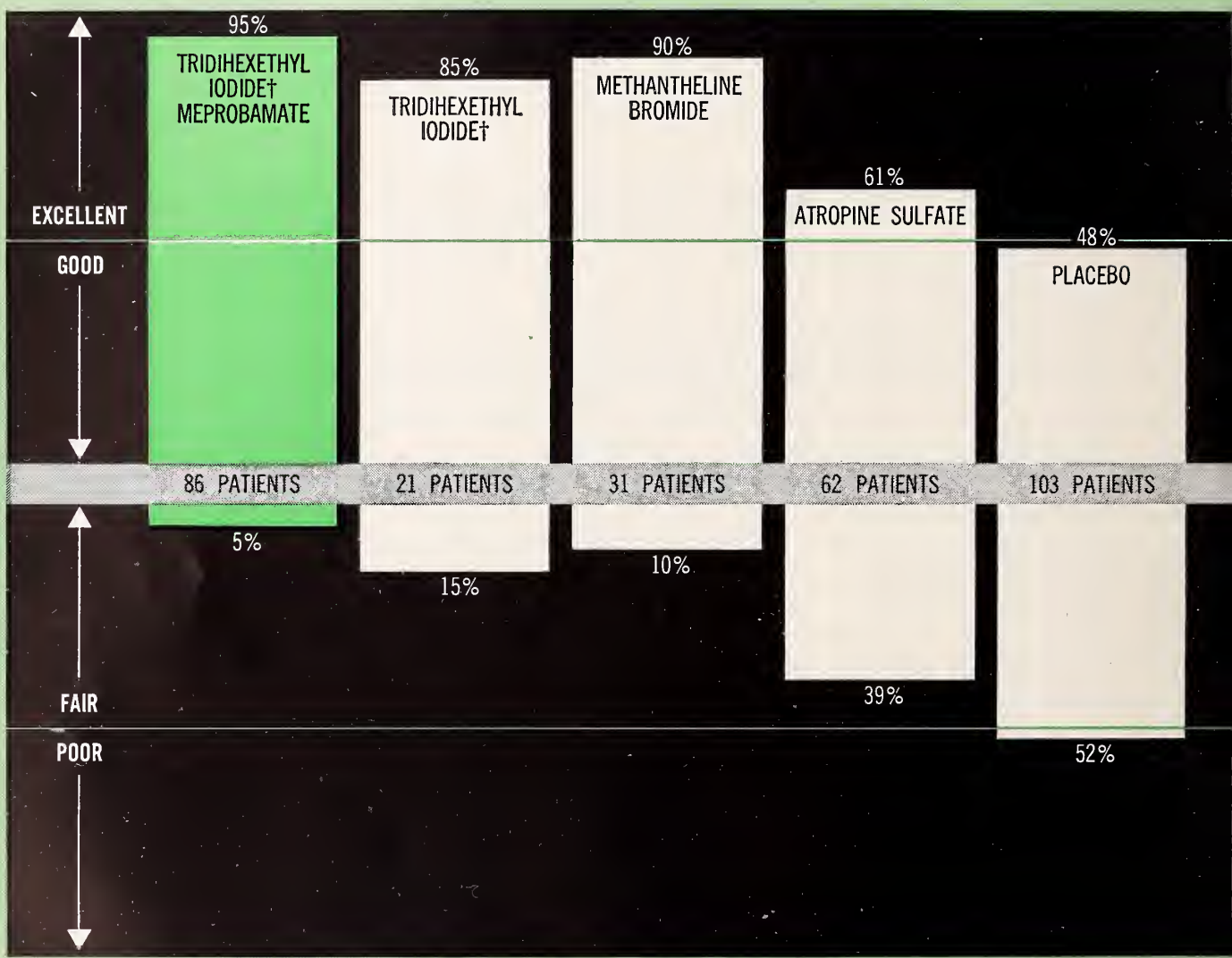


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DRY MOUTH	1%	5%	72%	46%	5%
STOMATITIS	1%	0%	28%	14%	0%
VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND MILDER	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. **Am. J. Digest. Dis.** 4:1055 (Dec.) 1959.

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References: 1. Reports to the Squibb Institute, 1960. 2. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 3. Stenberg, E. S., Jr.; Benedetti, A., and Forsham, P. H.: Op. cit. 5:46 (Feb.) 1960. 4. Fuchs, M.; Moyer, J. H., and Newman, B. E.: Op. cit. 5:55 (Feb.) 1960. 5. Marriott, H. J. L., and Schamroth, L.: Op. cit. 5:14 (Feb.) 1960. 6. Ira, G. H., Jr.; Shaw, D. M., and Bogdonoff, M. D.: North Carolina M. J. 21:19 (Jan.) 1960. 7. Cohen, B. M.: M. Times, to be published. 8. Breneman, G. M. and Keyes, J. W.: Henry Ford Hosp. M. Bull. 7:281 (Dec.) 1959. 9. Forsham, P. H.: Squibb Clin. Res. Notes 2:5 (Dec.) 1959. 10. Larson, E.: Op. cit. 2:10 (Dec.) 1959. 11. Kirkendall, W. M.: Op. cit. 2:11 (Dec.) 1959. 12. Yu, P. N.: Op. cit. 2:12 (Dec.) 1959. 13. Weiss, S.; Weiss, J., and Weiss, B.: Op. cit. 2:13 (Dec.) 1959. 14. Moser, M.: Op. cit. 2:13 (Dec.) 1959. 15. Kahn, A., and Grenblatt, I. J.: Op. cit. 2:15 (Dec.) 1959. 16. Grollman, A.: Monographs on Therapy 5:1 (Feb.) 1960.

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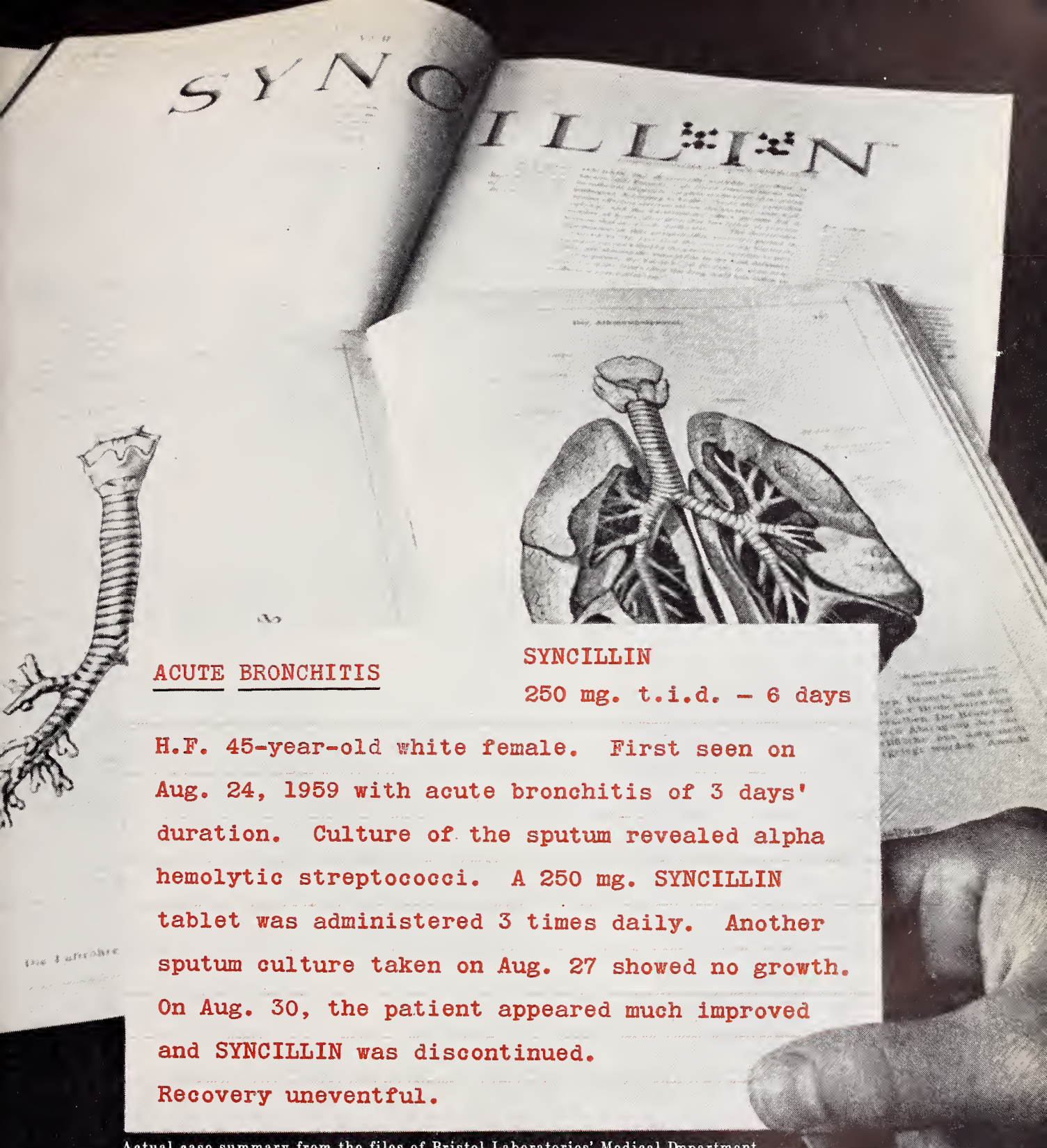
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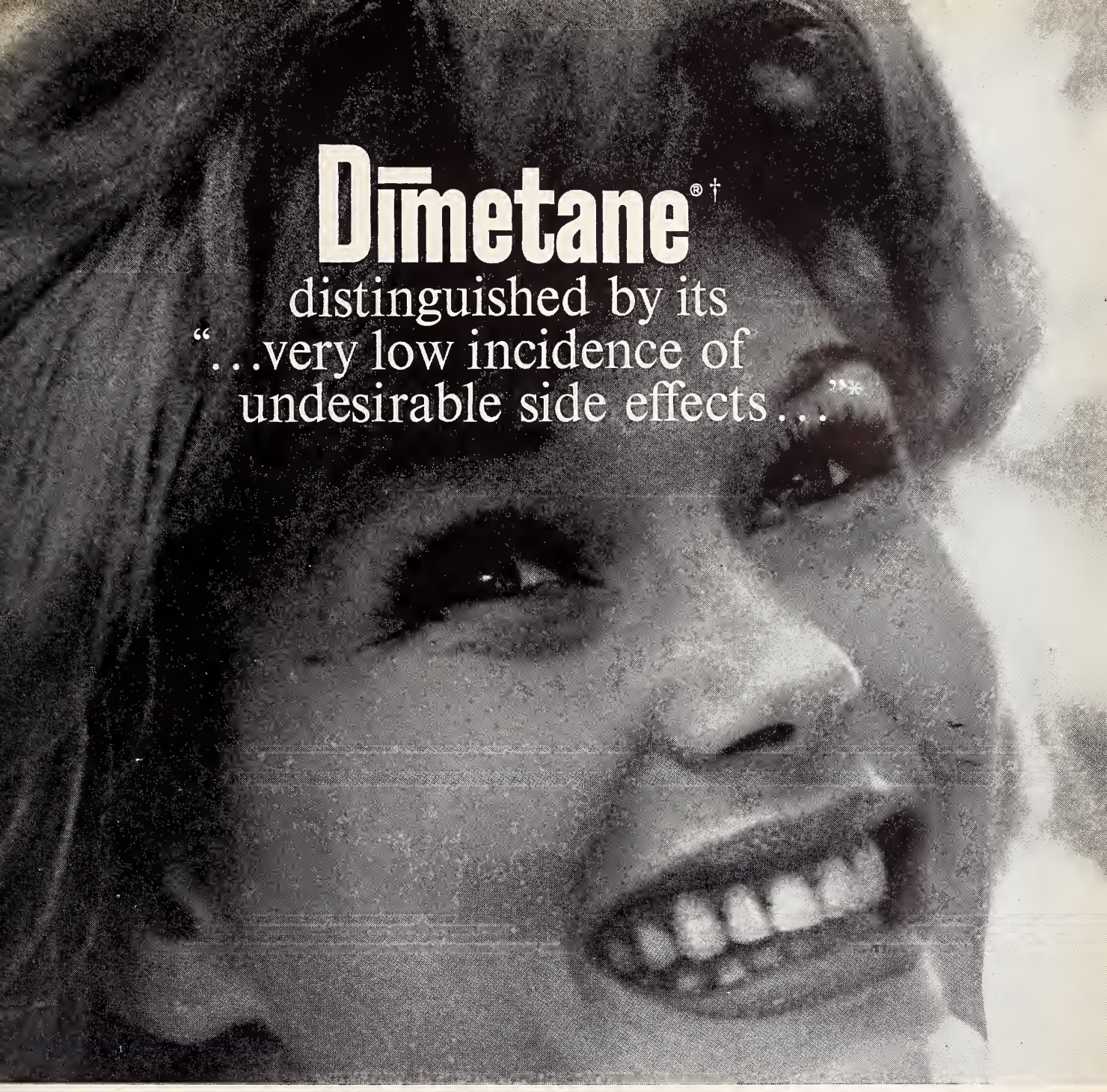


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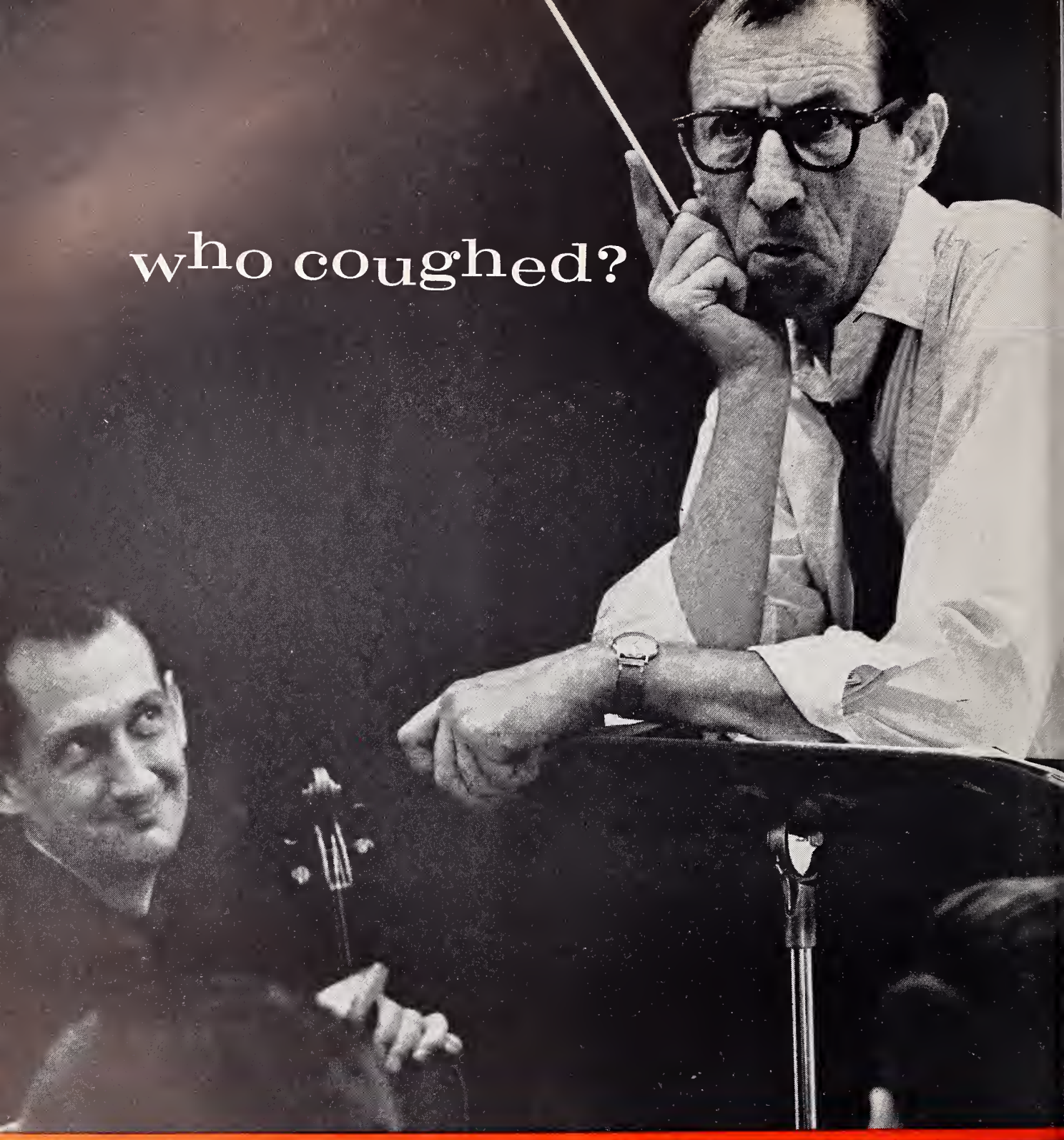
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*MC GOVERN, J. P., MC ELHENNEY, T. R., HALL, T. R., AND BURDON, K.D.: ANNALS OF ALLERGY 17:915, 1959.

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Pyrilamine Maleate		12.5 mg.
Phenylephrine Hydrochloride		10 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Average adult dose: One teaspoonful after meals and at bedtime. May be habit-forming. Federal law permits oral prescription.

Literature on request

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Pyridoxine HCl (50 mg.) for metabolic replacement.

usual dose: One tablet at bedtime; severe cases may require another tablet on arising.

supply: Bottles of 25 and 100 tablets. Bonadoxin also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, and motion sickness. Also useful in postoperative nausea and vomiting.

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References: 1. David, N. A.; Parter, G. A., and Gray, R. H.: Monographs an Therapy 5:60 (Feb.) 1960. 2. Friend, D. H.; Clin. Pharm. & Therap. 1:5 (Mar.-Apr.) 1960. 3. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

Naturetin Squibb Benzydroflumethiazide **Naturetin c K** Squibb Benzydroflumethiazide with Potassium Chloride

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pHisoHex, antibacterial detergent with 3 per cent hexachlorophéne, removes soil and oil better than soap — provides **continuous** degerming action when used often. pHisoHex is nonalkaline, nonirritating and hypoallergenic.

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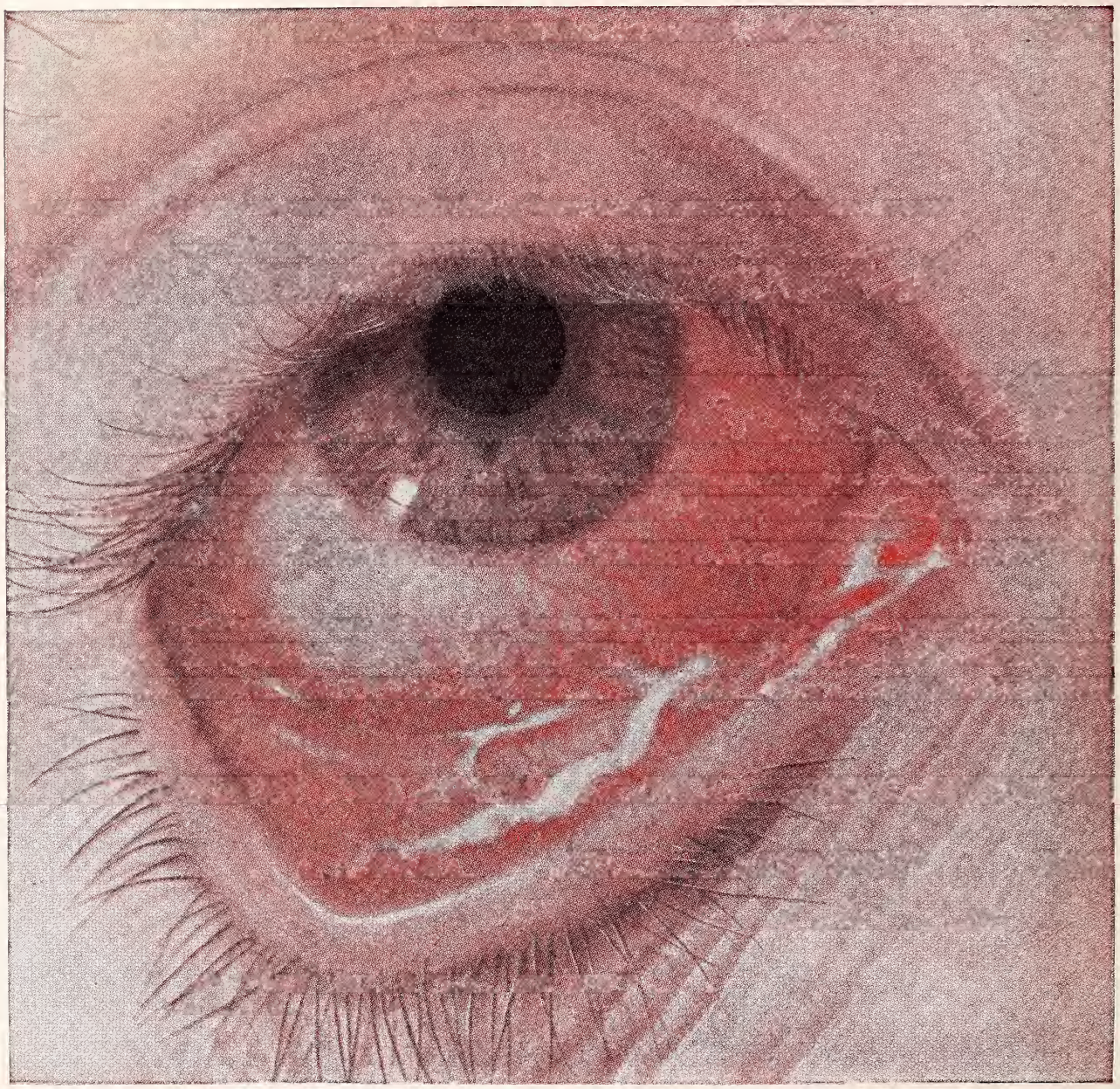
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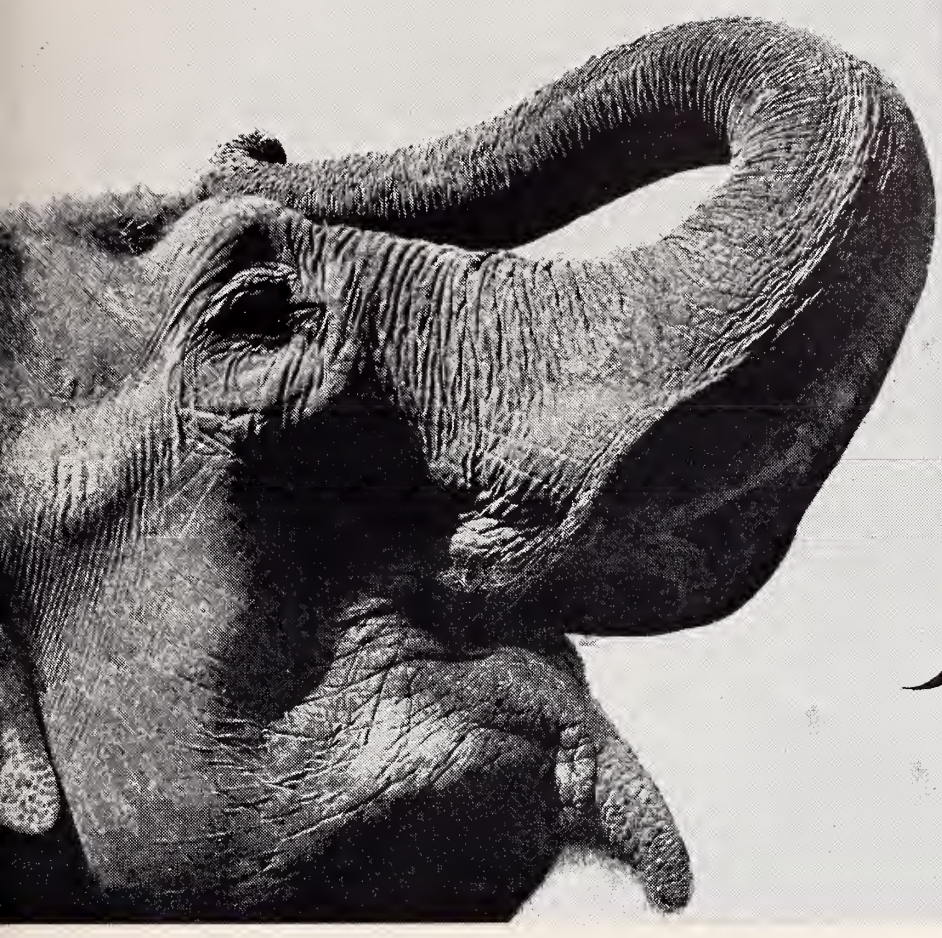
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1. Lippmann, O.: Arch. Ophth. **57**:339, March 1957.
2. Gordon, D.M.: Am. J. Ophth. **46**:740, November 1958.

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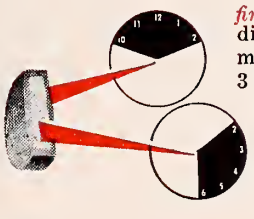
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then— the core disintegrates to give 3 to 4 *more* hours of relief

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½ the formulation of the Triaminic Tablet.
Dosage: 1 Juvelet in the morning, midafternoon and at bedtime.

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Dosage (to be administered every 3 or 4 hours):
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WHEN ULCEROGENIC FACTORS KEEP ON WORKING...



REMEMBER THIS: SO DOES ENARAX

Think of your patient with peptic ulcer—or with gastrointestinal dysfunction—on a typical day.

Think of the anxieties, the tensions.

Think, too, of the night: the state of his stomach emptied of food.

Disturbing?

Then think of ENARAX. For ENARAX was formulated to help you control precisely this clinical picture. ENARAX provides oxyphencyclimine, the inherently long-acting anticholinergic (up to 9 hours of actual achlorhydria[1]) . . . plus Atarax, the tranquilizer that doesn't stimulate gastric secretion.

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(10 MG. OXYPHENCYCLIMINE PLUS 25 MG. ATARAX®†) A SENTRY FOR THE G.I. TRACT

dosage: Begin with one-half tablet b.i.d.—preferably in the morning and before retiring. Increase dosage to one tablet b.i.d. if necessary, and adjust maintenance dose according to therapeutic response. Use with caution in patients with prostatic hypertrophy and only with ophthalmological supervision in glaucoma.

supplied: In bottles of 60 black-and-white scored tablets. Prescription only.

References: 1. Steigmann, F., **et al.:** Am. J. Gastroenterol. 33:109 (Jan.) 1960. 2. Hock, C. W.: to be published. 3. Leming, B. H., Jr.: Clin. Med. 6:423 (Mar.) 1959. 4. Data in Roerig Medical Department Files.

†brand of hydroxyzine

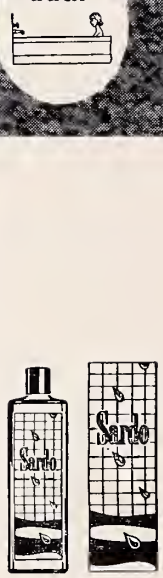
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Use of **SARDO** in 118 dermatological patients to relieve dry, itchy, scaly, fissured skin achieved these excellent results:

CASES	AFTER SARDO*		
	Excellent	Good	Poor
49 Senile skin	32	13	4
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20 Atopic dermatitis	8	10	2
13 Actinic changes	9	4	—
10 Ichthyosis	3	4	3
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1. Weissberg, G.: Clin. Med., June 1960.
2. Spoor, H. J.: N. Y. St. J. Med., Oct. 15, 1958.

**patent pending*
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"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

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Diagnostic Quandaries

Colitis? Gall Bladder Disease?
Chronic Appendicitis?
Rheumatoid Arthritis? Regional Enteritis?

A DISEASE that is frequently overlooked in solving diagnostic quandaries is amebiasis. Its symptoms are varied and contradictory, and diagnosis is extremely difficult. In one study, 56% of the cases would have been overlooked if the routine three stool specimens had been relied on.[1]

Another study found 96% of a group of 150 patients with rheumatoid arthritis were infected by *E. histolytica*. In 15 of these subjects, nine stool specimens were required to establish the diagnosis.[2]

Webster discovered amebic infection in 147 cases with prior diagnoses of spastic colon, psychoneurosis, gall bladder disease, nervous indigestion, chronic appendicitis, and other diseases. Duration of symptoms varied from one week to over 30 years. In some cases, it took as many as six stool specimens to establish the diagnosis of amebiasis.[3]

Now treatment with Glarubin provides a means of differential diagnosis in suspected cases of amebiasis. Glarubin, a crystalline glycoside obtained from the fruit of *Simarouba glauca*, is a safe, effective amebicide. It contains no arsenic, bismuth, or iodine. Its virtual freedom from toxicity makes it practical to treat suspected cases without undertaking difficult, and frequently undependable, stool analyses. Marked improvement following administration of Glarubin indicates pathologically significant amebic infection.

Glarubin is administered orally in tablet form and does not require strict medical supervision or hospitalization. Extensive clinical trials prove it highly effective in intestinal amebiasis.

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TABLETS

specific for intestinal amebiasis

Supplied in bottles of 40 tablets, each tablet containing 50 mg. of glaucarubin.

Write for descriptive literature, bibliography, and dosage schedules.

1. Cook, J.E., Briggs, G.W., and Hindley, F.W.: Chronic Amebiasis and the Need for a Diagnostic Profile, Am. Pract. and Dig. of Treat. *6*:1821 (Dec., 1955).

2. Rinehart, R.E., and Marcus, H.: Incidence of Amebiasis in Healthy Individuals, Clinic Patients and Those with Rheumatoid Arthritis, Northwest Med., *54*:708 (July, 1955).

3. Webster, B.H.: Ameblasis, a Disease of Multiple Manifestations, Am. Pract. and Dig. of Treat. *9*:897 (June, 1958).

*U.S. Pat. No. 2,864,745

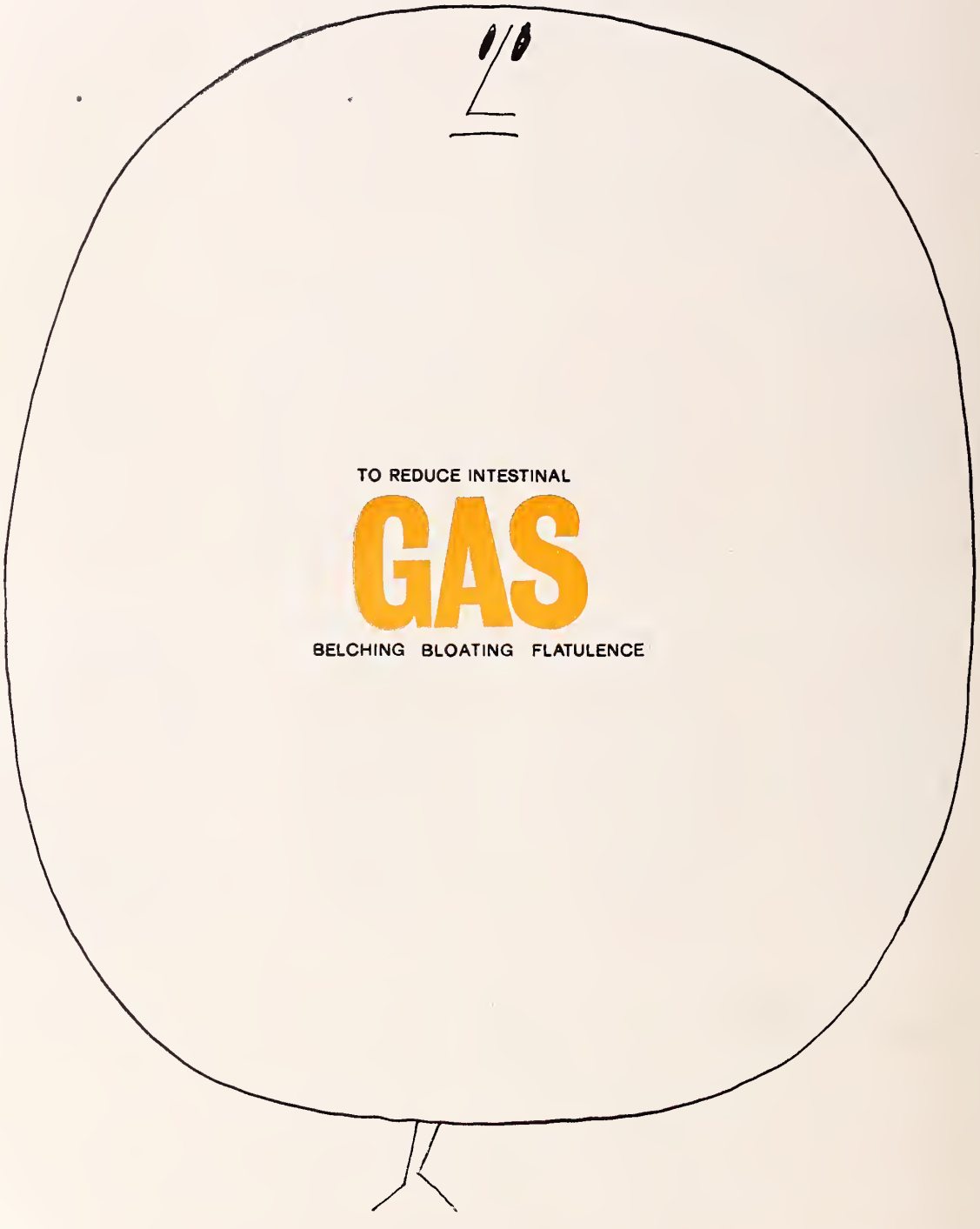
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*DORSEY BRAND OF CELLULASE, EXPRESSED AS DIGESTIVE ACTIVITY UNITS.

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Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient – *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation – *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety – both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely – no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function – frequently reported with other antidepressant drugs.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

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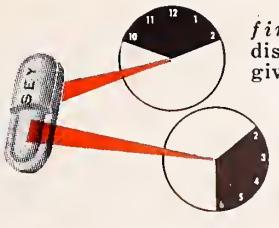
TRIAMINIC® 50 mg.
(phenylpropanolamine HCl 25 mg.
pheniramine maleate 12.5 mg.
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(brand of dextromethorphan HBr)..... 30 mg.
Terpin hydrate 180 mg.
APAP (N-acetyl-p-aminophenol) 325 mg.

References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

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with non-narcotic Dormethan, possessing "amply demonstrated" antitussive activity,[6] as effective as codeine.

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with terpin hydrate, classic expectorant.

Prompt and prolonged relief because of this special "timed release" design:



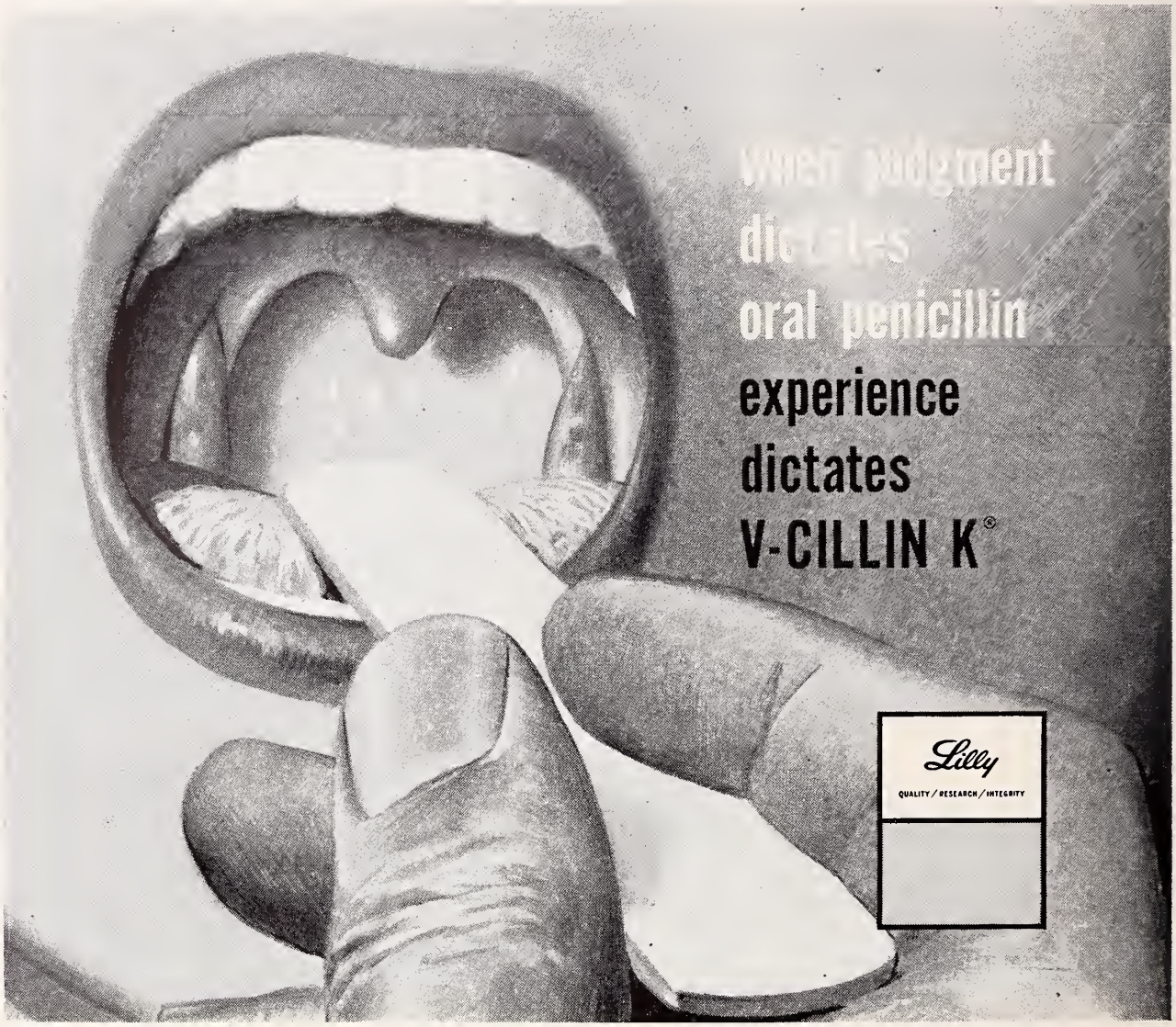
first — the outer layer dissolves within minutes to give 3 to 4 hours of relief

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Dosage: One tablet in the morning, midafternoon and at bedtime. Pediatric dosage chart for Tussagesic Suspension available on request.

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for unmatched speed Peak levels of antibacterial activity are attained within fifteen to thirty minutes—faster than with any other oral penicillin.[1]

for unsurpassed safety The excellent safety record of V-Cillin K is well established. There is no evidence available to show that any form of penicillin is less allergenic or less toxic than V-Cillin K.

Prescribe V-Cillin K in scored tablets of 125 and 250 mg., or V-Cillin K, Pediatric, in 40 and 80-cc. bottles.

1. Griffith, R. S.: Comparison of Antibiotic Activity in Sera Following the Administration of Three Different Penicillins, Antibiotic Med. & Clin. Therapy, 7:No. 2 (February), 1960.

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Original Articles

Arizona Medicine

Vol. 17, No. 9 September, 1960

Permanent Anticoagulation

Charles A. L. Stephens, Jr., M.D., F.A.C.P.

Tucson, Arizona

Presentation of Annual Award For Prize-Winning Paper

Mr. Chairman, Members of the Association, Guests: Today the Association begins an observance that it hopes will become a yearly distinction for one of its members. To stimulate research and original clinical effort, it has been decided to make an award annually for the best scientific presentation by an Arizona physician. Papers entered in open competition are judged by the Scientific Assembly Committee, and the successful entry is to be read by the author during the Convention.

We conceive that winning this honor will come to be a mark of prime professional eminence. We believe also that there is particular notability in being the first name on the roster, in being the doctor who founds the tradition. Several fine manuscripts were submitted this year, but the victor was the unanimous choice of the judges. It is with a full sense of its fitness, therefore, that I tender this plaque of award on behalf of the Association and as a token of its commendation and admiration, for his outstanding contribution entitled "Permanent Anticoagulation", to Dr. Charles A. L. Stephens, Jr.

Lindsay E. Beaton, M.D., President

IN 1946 the New York Chapter of the American Heart Association created a Committee on Anticoagulants to evaluate these agents in therapy of coronary thrombosis. This group, headed by Drs. Wright, Marple and Beck, undertook a controlled study of short term anticoagulant therapy. In their findings, mortality and morbidity of treated cases contrasted favorably with those of the controls. Anticoagulants for short term treatment of coronary thrombosis were at last of documental value. The preliminary report of the Committee (1) was later expanded and published as a text book in 1954(2).

Those interested in the therapeutic value of anticoagulants were curious about their use in other thromboembolic conditions. Patients with cerebral thrombosis and thrombophlebitis were subjects of controlled investigations. The conclusions reached affirmed therapeutic usefulness in these conditions(3-7).

Collection and interpretation of data on the short term treatment of thromoembolism was a gigantic task. Long term treatment had to wait for long term evaluation. Only recently have investigators accumulated sufficient data over sufficient time to report significant numbers of controlled case studies from which justifiable conclusions may be drawn(8-17).

It is our purpose to review the mechanics of permanent anticoagulant therapy in thromboembolic disease with passing mention of various agents available; technics of laboratory determinations; results from our own experience in 281 cases; and results reported in the literature.

INDICATIONS

Permanent anticoagulant therapy of thromboembolic disease is indicated whenever the ctiology of the thromboembolism is irreversible and there is likelihood of recurrence. The most common states are as follows:

1. Arteriosclerotic cardiovascular disease
 - (a) Coronary thrombosis and myocardial infarction
 - (b) Coronary insufficiency
 - (c) Cerebral thrombosis
 - (d) Cerebral insufficiency, especially carotid or basilar arteries
 - (e) Arteriosclerosis obliterans
 - (f) Central retinal artery or vein thrombosis
 - (g) Peripheral embolism
2. Arrhythmic heart disease with auricular fibrillation and auricular thrombi
3. Recurrent thrombophlebitis
4. Pulmonary hypertension
5. Miscellaneous

Permanent anticoagulant therapy in coronary atherosclerosis with occlusion and myocardial infarction has been the subject of considerable controversy. Russek and associates(18) have attempted to divide these patients into good risk and bad risk categories, even those on short term therapy. Others contend that coronary thrombosis is a treacherous disease, and only in retrospect can the good risk be separated from the bad risk cases(19,20). Prognosis in the untreated patients is poor. Levine(21) found 25% of patients died in the first year; 50% had died by the end of the second year; and 75% did not live more than five years. Manchester(13) reported 60% recurrent myocardial infarctions within five years. Bland and White(22) found a 75% mortality within 10 years.

A "first coronary" is often delineated from second and third coronaries. Pathologists repeatedly show us hearts with old scars of multiple infarctions. Coronary occlusion with myocardial infarction is a major cause of death and disability in the present phase of our civilization. Each year approximately 200,000 persons die from this cause in the United States. From 600,000 to 800,000 persons suffer attacks. The greatest personal and social significance of myocardial infarction lies in the large number of persons lost during their most productive years. Statistics tend to emphasize only the resultant deaths. A comprehensive review of loss must consider such serious residual disabilities as myocardial and coronary insufficiency and the results of embolization, hemiplegia, mesenteric occlusion, or the loss of a limb from gangrene(23).

Arrhythmic heart disease of congenital, rheumatic or atherosclerotic origin, usually victimizes patients in the younger age groups. Single or multiple emboli often cause tragic crippling or untimely death.

Phlebitis migrans or recurrent thrombophlebitis threatens fracture of the thrombus with often dramatic and fatal embolus. It has been shown by Wood and Conn(51) that permanent anticoagulant therapy may retard the downhill course of irreversible pulmonary hypertension by preventing secondary thrombo-obstructive lesions. It may be curative in subacute thromboembolic pulmonary hypertension.

In the miscellaneous group of conditions in which long term anticoagulation might be indicated, one might consider the Chiari-Budd syndrome of hepatic vein thrombosis, abdominal angina with threatened or actual mesenteric vascular occlusion, thrombotic thrombocytopenic purpura, polycythemia, visceral Buerger's disease, and a variety of other relatively rare conditions. The major common thromboembolic states for which permanent anticoagulation is clearly indicated are actual or threatened atherosclerotic arterial occlusions and arrhythmic heart disease with embolization.

Absolute Contraindications and Relative Contraindications to anticoagulant therapy are listed below:

ABSOLUTE Contraindications:

1. Duodenal or gastric ulcer
2. Gastric carcinoma, bleeding polypi or Meckel's diverticulum
3. Subacute bacterial endocarditis

4. Severe hypertensive disease
5. Cirrhosis of the liver
6. Hepatitis
7. Dissecting aneurysm of the aorta
8. Cerebral aneurysm
9. Cerebral hemorrhage
10. Preceding a traumatic operation such as transurethral resection
11. Vitamin C deficiency — scurvy
12. Blood dyscrasias interfering with blood clotting
13. Late pregnancy
14. Polyarteritis

RELATIVE Contraindications: Requiring caution in use of anticoagulants

1. Hypoprothrombinemia
2. Acute or chronic passive congestion of the liver (heart failure)
3. Thrombotic thrombocytopenic purpura
4. Before impending nontraumatic surgery
5. Renal insufficiency
6. Moderate hypertension

METHODS

There are three basic requirements which must be met prior to institution of permanent anticoagulant therapy. Before recommending that the patient embark on the voyage from home to laboratory, to work — and repeat for life, as is required in permanent anticoagulation — it is essential that whatever intelligence and cooperation he has shall be channelled and dedicated to his own service. It is not enough to say: "You must do thus and thus." The art of the physician is required to alert the patient to his need, evoke his cooperation and explain the necessity for his all-out, focussed effort.

The second fundamental is a good laboratory. One wag has defined a good laboratory as one "manned by technicians with obsessive compulsive neuroses" because they do the most careful, meticulous prothrombin tests.

The third and last prerequisite is a physician who is thoroughly acquainted with at least one anticoagulant. He must know and understand the method of prothrombin determination used in his laboratory. He must be willing to persist in demanding accuracy and meticulousness on the part of the patient, on the part of the laboratory technician, and on the part of himself.

Marple and Wright(23) have written of the use and abuse of anticoagulants. In my own experience, I have seen patients with hemorrhage, in consultation, on whose order sheet the attending doctor had written "Dicumarol, one tablet after meals and at bedtime." Abuse of anticoagulants, and ignorance of the pharmacology of anticoagulant drugs lead to statements, oral or written, of: "It's not safe," "It doesn't work." Or "I have quit using it." As we shall see, the weight of experience is against these dicta. Anticoagulant therapy is an effective, safe procedure if the three basic requirements are met: An alerted patient. A meticulous laboratory. And an informed doctor.

TABLE I

Generic Name	Trade Name	Route of Administration	Usual Dosage	Latent Period	Time To Reach Maximum Effect	Duration of Effect
Phenindione	Danilone Hedulin	oral	**Initial:** 2-300 mg. **Maintenance:** 50-100 mg.O.D.		48-60 hours	48-60 hours
Bishydroxy-coumarin	Dicumarol	oral	**Initial:** 300 mg. **Maintenance:** 50-200 mg.O.D.	24 hrs.	60-96 hours	5 days
Ethyl biscoumacetate	Tromexan	oral	**Initial:** 1500-2000 mg. **Maintenance:** 600-1200 mg.O.D.	8-12 hrs.	48-60 hours	48-60 hours
Warfarin sodium	Coumadin	Oral Intravenous Intramuscular	**Initial:** 50 mg. **Maintenance:** 5-10 mg.O.D.	8-12 hrs.	36 hours	3 days

SELECTION OF DRUGS:

For permanent anticoagulation, there are two classes of drugs available, the coumarins and the phenadiones.

For *long term treatment* my own experience has been good with Dicumarol because its long

recovery period helps to maintain a steady state. Warfarin Sodium (Coumadin) comes closer to the ideal *short term treatment*. There is reported to be a higher sensitivity to the antidote Vitamin K with Coumadin. The virtues and vices of the different oral anticoagulants are perhaps less distinct than our friends in the pharmaceutical industry would have us believe.

Tromexan, another "shorter recovery" drug similar to Warfarin, was compared with Dicumarol by Scarrone and his associates(24) over 6,642 and 5,006 patient days respectively. They state: "More of the thromboembolic complications under Tromexan occurred when prothrombin times were below the optimal therapeutic range than those under Dicumarol." They concluded: "Control of the lower limits of therapeutic range presents more of a problem with Tromexan than with Dicumarol."

For the purposes of long term administration, a smoother, more controlled effect may be given by the longer recovery drug, Dicumarol. Whether the greater predictability of Coumadin cancels out this factor requires more study. In any event, it is wise for the practicing physician to select one anticoagulant, as he selects one digitalis preparation, and then to become thoroughly familiar with its characteristics.

Heparin is of no value for permanent anticoagulant therapy because it cannot be taken by mouth. Heparin as a "clearing factor" for lipemic serum is, of course, not directed toward anticoagulation In this use, it may be given either by subcutaneous injection or via the sublingual routes.

DOSAGE

The initial dose for each of the oral anticoagulants is well standardized: viz. 50 mg. for Coumadin, 300 mg. for Dicumarol. Maintenance dosages are quite individual and vary not only from person to person, but even in the same person from time to time. I have studied the average daily requirement of Dicumarol in a patient on continuous anticoagulant therapy for the past 14 years. The variations range from 37.5 mg. in 1951 to 75 mg. in 1953. At the present time, the patient is averaging 57.5 mg. per day.

There are both endogenous and exogenous factors which cause increased and decreased response anticoagulant therapy, as follows:

INCREASED RESPONSE

Endogenous	*Exogenous*
Liver insufficiency	Salicylates — 1 Gm./day
Nutritional State	Phenylbutazone
Diarrhea	Sulfonamides
Undernutrition	Antibiotics
Febrile Disease	Restricted diets
Congestive heart failure	Low protein
Renal disease	Low Vitamin C.
	Prolonged hot weather
	Drugs affecting blood elements
	Quinidine
	Hepatotoxic agents
	Decreased physical activity

DECREASED RESPONSE

Endogenous	*Exogenous*
Edema	Alcohol
Hyperlipemia	Vitamin K in multivitamins
Diabetes	Antihistamines (?)
Pancreatic malignancy	Corticotropin & Corticosteroids
Pregnancy	Mineral oil
	Digitalis
	Increased physical activity

In addition to these known agents influencing response, there are unknown or unappreciated factors to consider: absorption of the drug from the gut may vary from time to time; dietary Vitamin K precursor undoubtedly is different at different seasons of the year, Lent for example; gastrointestinal microbial synthesis of Vitamin K precursor must fluctuate with a variety of stresses from daily living or from drug administration, such as antibiotics. These variables have not yet been fully investigated.

For the past two years, in an attempt to cancel out the variables, I have carried ten patients on Dicumarol plus oral Vitamin K-1 (Mephyton). Although this group is too small to justify any conclusions, there has been a remarkable stability of the prothrombin response in this group to a relatively constant dose of Dicumarol. Further investigation in the combined use of an anticoagulant and its antidote seems indicated.

THE PROTHROMBIN TEST AND ITS INTERPRETATION

It is now accepted by most "coagulationists" that a prolonged Quick One Stage prothrombin time (when the fibrinogen is normal) induced by anticoagulants is a primary deficiency in Factor VII and prothrombin(25).

The original Quick One Stage method, the modification by Link and Shapiro, the subsequent Manchester test, and the Owren bedside modification, all have their supporters and their critics. It has been our practice for the past 14 years to use the Link-Shapiro modification of the Quick method, with results reported in seconds. We have seen no reason to alter this, or to adopt different technics. The Link-Shapiro results are reported in seconds(26) and in our opinion, the desired therapeutic level is 2-2½ times the control. Some authors(27,28) hold that 1-1½ times the control is satisfactory for long term anticoagulation, but supporting statistics are lacking.

The danger of anticoagulant therapy lies not in hemorrhage — a reversible complication; but in clotting — an irreversible state. Should bleeding occur from too much, the antidote Vitamin K can be administered. If necessary, a transfusion of whole blood can be given, but should clotting occur, we find ourselves without any effective thrombolytic agent. Therefore, it seems logical to accept the dictum that conservative anticoagulation is too much, rather than too little. In our experience, keeping the patient at 2-2½ times the control, does not result in greater incidence of hemorrhage than those reported series in which 1-1½ times the control has been employed as the therapeutic level. Our thromboembolism frequency appears to be somewhat less.

The interpretation of the prothrombin time presupposes specific knowledge on the part of the physician regarding:

1) The quality and stability of the thromboplastin used
2) The dilution curve of the thromboplastin and
3) The method of reporting the results.

There are available commercially a variety of thromboplastins. Most of these are derived from rabbit lungs. Many of them have the proper electrolyte concentrations already added. Soluplastin, Simplastin, Acutel are trade names of materials in common use. Methods of manufacture varying the amount, size and distribution of suspended solids in the preparation will shorten or lengthen the clotting end point, as desired (29,30). Standardized preparations having the optimum particle size and distribution are available. They give prothrombin times that are consistently precise when used on normal and patient plasma. Almost all prothrombin determinations at present employ the "short time" thromboplastins, which give prothrombin time normals of from 12-15 seconds. Further, these standardized thromboplastins have been the basis for establishing the therapeutic range of from 2-2½ times the normal prothrombin time in controlled anticoagulant therapy(31).

However, thromboplastins do vary from lot number to lot number and from company to company. It, therefore, is necessary to know the dilution curve of the particular thromboplastin used and to determine whether or not 2-2½ times the control represents 10-30% prothrombin activity. Every technician should make his own curve comparable to average value curves published by the manufacturer. Every technician should recheck points on this curve frequently. Sources of error arise from several factors: attempts to store thromboplastin in the deep freeze for too long a time, a change in Lot Numbers, holding the patient's plasma for too long before it is tested, etc. Accuracy and attention to details can hardly be overemphasized, when we appreciate that the laboratory report is the only guide we have to anticoagulation.

Prothrombin times may be reported in seconds, in percent of normal, in percent of prothrombin activity, or in percent of Dicumarol activity. This confusion can easily be avoided if one requests a report of the control and the patient in seconds. Interpretation then is merely a question of familiarity with the dilution curve for that particular thromboplastin. Percent prothrombin activity is an acceptable laboratory report also, if the activity curve of the thromboplastin in use, and the time value of a given percentile at different degrees of dilution are thoroughly familiar to the interpreter.

Shapiro and Ciferri(32) and Watson(33) have stated that a delay of 24 hours after drawing a sample of blood does not have any significant effect on the prothrombin time, as determined for that sample. Our own laboratory has noted progressive prolongation of the prothrombin time after the first 30 minutes. After three hours, our values exhibit errors up to plus or

minus 50%. Therefore, in our own laboratory, prothrombin times are determined within one hour of venipuncture.

CLINICAL DATA

Permanent anticoagulant therapy has been administered for the past 14 years to 281 patients suffering from thromboembolic diseases. Prior to treatment, there were 329 thromboembolic episodes in 281 patients. In these 180 males and 101 females with ages ranging from 16 to 88 years, pretherapy thromboembolism occurred as follows:

DISEASES	*No. of Episodes*
Coronary thrombosis	168
Impending coronary thrombosis	9
Cerebral thrombosis	52
Cerebral insufficiency	28
Auricular fibrillation with intra-auricular thrombosis and embolization	29
Peripheral arterial occlusion	16
Recurrent thrombophlebitis	15
Buerger's disease	6
Central retinal vein thrombosis	2
Mesenteric thrombosis	3
Hepatic vein thrombosis	1
	329

DURATION OF TREATMENT

The average patient has been on anticoagulant therapy for three and one-half years, with a range in this series from one to 14 years. Patient distribution over the past 14 years represents a total of 1,244 patient years of treatment.

Hemorrhage: Twenty-three patients of the entire group of 281 (8%) suffered major bleeding at one time or another in the course of their treatment. There were four deaths due to cerebral hemorrhage, probably due to drug-induced hypoprothrombinemia. One patient died from the Winternitz phenomenon of coronary subintimal hemorrhage with occlusion. Myocardial rupture with hemopericardium occurred in two patients. The mortality rate from excessive anticoagulation was seven patients (2.5%) of the 281 patients studied.

Thromboembolism: Nineteen further thromboembolic episodes occurred (6.8%) while under anticoagulant treatment. Of these, nine were fatal recurrent coronary thromboses, 3 non-fatal coronary thromboses, four were further cerebral thromboses, one was thrombophlebitis and pulmonary embolus, and the remaining two were recurrent emboli from intra-auricular thrombi in fibrillating hearts.

Non-Thromboembolic Mortality: Carcinoma, accidents, heart failure and the the usual expected fatal diseases, unassociated with thromboembolism, accounted for 113 deaths (40%) of the total group followed from one to 14 years.

Discontinuance of Treatment: Thirty-six patients discontinued treatment for a variety of reasons. Recurrent bleeding necessitated discontinuance in five cases. Change in geographic location required cessation of treatment in 19 cases. Twelve patients became tired with the procedure and stopped treatment against advice.

Of special interest are 15 patients who stopped anticoagulation on advice because of necessary surgery. Of these, six suffered fatal thromboembolism within one week. Whether this is a "rebound phenomenon" or whether this represents the severe degree of the basic disease is unknown. Autopsy studies, however, revealed severe atherosclerosis. The vessels would admit into their lumens only a common pin.

It is now our practice not to discontinue all anticoagulants, but to employ intermittent intravenous heparin during all save the immediate operative period. In this connection, Wise (34) reported on 3,304 patients given Dicumarol just before surgery. The results were compared to 9,250 cases in which anticoagulants were not used. Mild bleeding developed in 2% of the cases and was easily controlled. In the treated group there was one death not due to Dicumarol therapy, and one case of non-fatal embolism. In the untreated group, there were 13 deaths and 28 cases of embolism.

For minor surgery, including dental extractions, it has not been found necessary to discontinue anticoagulation. Forty-one patients in our experience have now had dental extractions without serious untoward effects. Nuisance bleeding may occur but pressure and, if necessary, thromboplastin powder sprinkled on the empty socket has easily controlled any abnormal bleeding.

We have available no controls on these cases. Therefore this series has no statistical validity unless compared with published control figures, which is a questionable practice. It is our conviction, however, that permanent anticoagulation is a practical and effective prophylaxis for thromboembolic disease. Others have published studies

from which statistically supported conclusions can be drawn and these reports are worth our inspection.

REPORTED RESULTS

In 1947, Nichol and Fassett(35) reported "An Attempt to Forestall Acute Coronary Thrombosis: Preliminary Note on the Continuous Use of Dicumarol." This was a cautious suggestion and the first to appear in the literature. Three years later Rice and his coworkers(36) reported two cases of long term Dicumarol therapy, one of whom had numerous episodes of myocardial infarctions and coronary insufficiency. This patient remained on Dicumarol for three months. It was then discontinued and another attack occurred six weeks later. Dicumarol was reinstituted for two years without untoward episodes. The other patient, one of the authors, was treated with Dicumarol continuously for fifty-one months without complications.

By 1950, Nichol and Borg(37) reported experiences with 78 patients on long term Dicumarol treatment. Although their impression was "continuous use of Dicumarol over a period of years is feasible and relatively safe" they recognized the need for long term cooperative study by larger groups to prove its value.

Gilbert and associates(38) reported continuous anticoagulation in 78 patients from 1944 to 1950. Of these 78, 12 died, but only four had recurrent thromboses. Nine patients discontinued therapy, but 57 remained on the regimen and were doing well at the time of the report.

Wright and Foley(39) reported eleven patients with thromboembolism from arrhythmic heart disease followed for a total of 75 months without an embolus.

Cosgriff(2) reported his personal experiences with thromboembolism, and concluded that long term anticoagulation is of value.

These early anecdotal reports suffered from too few cases followed over too short a time. But this evidence accumulated through the early 1950's formed the basis for later, more comprehensive reports.

Owren(40) reported his technic and his results in the long term treatment of 236 patients with coronary thrombosis in 1954. Tulloch and Wright reported(41) their results with a similar group. Both sets of workers were convinced that this form of treatment was worth pursuing.

Keyes and Drake(8) studied 71 patients who had a single myocardial infarct and 50 who had recurrent infarcts. These patients received anticoagulant treatment for up to five years. They concluded that in the single infarct group, the death rate was three times greater without anticoagulant treatment than with. In the recurrent infarct group, the death rate was five times greater without anticoagulation.

Numerous other reports appeared in the second half of 1950. Some of these studies, such as

TABLE II

Characteristics of Groups Studied:

	Anticoagulant Group		Control Group	
No. Patients	204		200	
Age — Average	59		59	
Range in Years	31	92	39	88
Sex:	#	%	#	%
Males	156	76.4	148	74.0
Females	48	23.5	52	26.0
Prev. Infarcts	51	25.0	40	20.0
Risk: Poor	151	74.1	143	71.5
Good	53	25.9	57	28.5
Digitalized	32	15.6	66	33.0

Incidence and Mortalities with Subsequent Complications — 1-10 years

	Anticoagulant Group				Control Group			
	Incd.	%	Mort.	%	Incd.	%	Mort.	%
Myocardial Infarction	29	14.2	6	20.6	68	34.0	36	53.0
Cardiac Decomp.	43	19.7	8	18.6	72	36.0	33	45.8
Thrombo-embolism	14	5.8	2	14.2	35	17.5	16	45.7
Hemorrhage	6	2.9	0	0	0	0	0	0
			16	7.8			85	42.5

From: Manchester, B.: The value of continuous long term anticoagulant therapy, Ann.Int.Med. 47:1202 (Dec.) 1957

the author's(42,43) could not, because of the exigencies of private practice, include any adequate control series. But each author concluded that long term anticoagulant therapy salvaged an appreciable number of patients, and urged its use by their colleagues.

In 1958, Nichol(14) reported the cooperative study of 10 physicians in 10 different parts of the United States on 1,091 patients with coronary artery disease on long term anticoagulant therapy. The average patient remained on treatment 22.4 months, with a range extending from 1-8 years. In the treated group, the mortality was 6.2%. In the control group of 319 patients who abandoned treatment, the mortality was 28.2%. In another control group of 417 patients not treated with anticoagulants, the mortality was 37.4%.

Manchester(13) reported a 1-10 year study of continuous long term anticoagulant therapy in 404 patients with one or more myocardial infarctions, representing 204 treated cases with 200 controls.

As can be seen, Manchester's figures reveal a preponderance of male patients, twice as many with previous infarctions and parallel values for age, sex, digitalization and other factors between the treated and control group. Table II shows a marked difference in subsequent myocardial infarctions: 14% in the treated, as against 34% in the untreated group. A comparable difference in the other thromboembolic complications of 5.8% in the treated group as against 17.5% in the controls, of which only 14% were fatal in the treated, as against 45.7% in the untreated group.

Studies of the year in relation to subsequent myocardial infarction, point out the special dangers of the first four post-infarction years, and the age of the patient compared to subsequent infarction exhibits striking differences between treated and controlled cases at all ages.

Manchester also noted improvement in the incidence of angina in the treated group. This phenomenon was also noted by Nichol(14) and Waaler(44). This may be explained by H. P. Wright and her associates(45) who demonstrated the recanalization influence of prothrombin depression.

Toohey(6) reported 226 cases of coronary thrombosis followed from six months to four years. One hundred and seventeen of these patients remained on anticoagulants. The mortality rate in six months in the treated series was 1.7% as compared to 11.3% in the control group. At the end of 12 months, the mortality rate of the treated group was 3.0% compared with 18.3% for the untreated patients. In 18 months, the mortality rate was 11.6% compared to 24.3% in the control series.

Suzman(46) speaking before the Association of Physicians of Africa, gave statistics from a study of 1461 cases of coronary thrombosis followed from 1-10 years. Group A consisted of 399 patients who received continuous long term anticoagulant therapy. Group B consisted of 164 patients in whom anticoagulant therapy was discontinued. Group C was a control group of 898 patients who received short term treatment only. Results in terms of fatality rate were as follows:

	% Fatalities
Group A—Continuous anticoagulant therapy	16.8
Group B—Discontinued anticoagulant therapy	31.7
Group C—Short term anticoagulant therapy	44.5

Siekert and Milliken(47) have called our attention to the syndromes of cartoid artery and basilar artery insufficiency. Their experience with long term use of anticoagulants is most impressive.

The most comprehensive evaluation of prolonged anticoagulant therapy in cerebrovascular disease is reported by Wright and associates. A total of 57 patients were observed with on-and-off anticoagulant treatment. Thirty-one of this group had intramural thrombi, either due to rheumatic heart disease with auricular fibrillation or arteriosclerotic heart disease with myocardial infarction. Nineteen had arteriosclerosis cerebri, and seven had hypertension or other cerebral diseases. Results were as follows:

No Treatment	Duration	Thromboembolic Episodes	Cerebral
57 patients	795 patient months	205	81
Anticoagulants			
57 patients	1,162 patient months	23	6

Compared by a ratio on the basis of 1,000 patient months, the figures would run somewhat as follows: in the treated cases, there were 22 total thromboemboli. Untreated, these same patients would have had 350 total thromboemboli. The treated patients had 7 cerebral thromboemboli. Untreated patients would have had approximately 150 thromboemboli.

DISCUSSION

We have before us, then, large series of cases followed for long term with adequate controls, reported by investigators in the United States and abroad. Their conclusions all justify the con-

cept that permanent anticoagulation is indicated(50) whenever the etiology of thromboembolism is irreversible and there is likelihood of recurrence.

Our present drugs and method of control leave much to be desired. The ideal anticoagulant is not yet available. Stringent demands are placed upon both doctor and patients because of unpredictable effects from person to person — and even in the same person from time to time. There is total dependence upon a laboratory method subject to considerable error, and there is the relatively narrow range of therapeutic levels with which to contend. Even with the best of efforts, all series have a distressing percentage of failures. Yet, it is clear that many patients have been, and can be spared the penalty of death or disability.

Some of the newer, and as yet unproven approaches to the problem are of course the efforts to prevent and to reverse arteriosclerosis. The questions of diet, sodium-potassium ratios, activity, stress, and other factors, remain controversial etiologic factors in this disease. Until we have an effective method of both prevention and reversal of atherosclerosis, thromboembolism will remain with us.

Fibronolytic agents have been the subject of intensive investigation. Innerfield(48) and others have maintained that Chrymotrypsin of pancreatic origin may be of value in the dissolution of thrombi. Others have been unable to support this concept. Plasmin is under investigation at the present time and may prove to be a valuable blood derivative for fibrinolysis. However, the untoward reactions and the limited dosages permitted, together with the necessity to administer the preparation almost immediately after the formation of thrombi, may possibly limit its value.

Various surgical procedures to relieve atherosclerosis and its complications hold considerable promise. The work of DeBakey and Cooley(49) in aortic, carotid and vertebral artery homografts, appear to be successful procedures in selected cases.

Coronary enarterectomy still has too high a mortality rate for broad usage, and cardiac omentopexy or talcum pericarditis have not gained favor. Auricular appendage amputation in rheumatic auricular fibrillation with thromboembolism is now almost routine in mitral commisurotomy. In selected cases, it may obviate the necessity of long term anticoagulation.

Research for predictable anticoagulants which do not require laboratory control continues. As more knowledge is gained concerning the mechanisms of blood clotting, the ideal anticoagulant may one day be found.

SUMMARY AND CONCLUSIONS

1. Evaluation of present day anticoagulation therapy has been reviewed historically.

2. The indications and contraindications for permanent anticoagulant therapy have been listed.

3. The pharmacological effects of anticoagulants and their methods of control have been outlined.

4. Clinical results with anticoagulants both in the United States and abroad have been summarized.

5. Experimental methods for the treatment of thromboembolism have been briefly reviewed.

6. Based upon investigations already in the medical literature and upon the author's personal experience, it is justifiable to conclude that permanent anticoagulant therapy is a practical and useful procedure.

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To get just one drug that is suitable for clinical investigation, an average of 60 substances is prepared and tested biologically by the nation's pharmaceutical companies.

This is reported in the current issue of *Patterns of Disease.*

A total of 114,600 substances was tested in 1958 by pharmaceutical companies for medical research purposes. Of these, 50,300, or 44%, were concerned with allergy and infectious diseases; 28,000 with caner; 12,000 with mental health, neurological diseases and blindness; and 8,200 with heart disease.

In the same year, 44 completely new pharmaceutical agents were marketed, only 16 of which came from sources outside the United States.

Research and development expenditures by pharmaceutical companies last year totaled $190,000,000 — 50% more than in 1957.

Benign Tumors of the Breast

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Benign tumors of the breast are discussed in the light of their clinical manifestations and management. The essential features of each type are reviewed. The basic problem in treatment is the establishment of the benign nature of the tumors.

THE BREAST is a skin appendage consisting essentially of a modified sweat gland. It is made up of 15 to 20 lobes, each of which connects to an opening on the nipple by a lactiferous duct. The ducts branch many times and eventually terminate in acini. Ducts and acini are surrounded by a specialized loose connective tissue. Before puberty the breast parenchyma consists entirely of ducts. At puberty, under the influence of estrin, active budding of ducts occurs with formation of acini. During pregnancy and lactation the breast consists of large masses of glandular tissue that almost entirely replaces the fatty tissue.

The more common benign tumors of the breast include the group which are true neoplasms and an assorted group which are non-neoplastic processes. The latter will be considered first.

Cystic disease (chronic cystic mastitis, chronic mastitis, Schimmelbusch disease, cystadenoma) is the most common lesion of the breast. For descriptive purposes the disease is divided into three general types depending on the predominance of tissue structures: 1. Cystic type: consisting mainly of one or more cysts; 2. Adenofibrous type: in which fibrous tissue predominates with scattered cystic and acinar areas; and 3. Hyperplasia (Schimmelbusch disease): with prominent true epithelial hyperplasia of the pink staining epithelium, which is probably apocrine glandular tissue, but often referred to as sweat gland epithelium.

Cystic disease occurs most frequently at 30 to 45 year age levels, never before puberty, and only occasionally after the menopause. Clinical lesions may be asymptomatic except for the presence of a palpable tumor or may be accompanied by pain and tenderness. Pain and tenderness are present or increased during the premenstrual phase and are more apt to occur when the cysts are rapidly enlarging. Pain is probably related to the tension of fluid in the cyst, as aspiration of the fluid relieves the pain. Cysts may be single but usually are multiple. The size of the cystic mass may fluctuate. Increase in size is common at the premenstrual phase. Spontaneous clinical disappearance of cysts may occur.

Palpation discloses one or more lumps. Large cysts are usually hard, smooth, freely movable tumors. Adenofibrous and Schimmelbusch types often give the breast a generalized firmness and shotty nodularity on examination. Nipple retraction and axillary lymphadenopathy are rare with cystic disease of the breast.

Diffuse firmness or generalized shotty nodularity requires no surgical treatment. Aspiration of cystic fluid contents followed by disappearance of the tumor can be utilized as definitive treatment particularly in recurrent cysts. Safest management is surgical excision of all discrete tumors.

Adenosis is a benign multiplication of mammary ducts and acini. Such changes may be intermingled with the intraductual epithelial proliferation of various types and with cysts of all sizes. Adenosis may form a single hard tumor which may be attached to the skin and be indistinguishable on gross examination from carcinoma. Varying amounts of fibrosis may involve these glandular elements and give the appearance of streaming out into the stroma — thus the name sclerosing adenosis. Excision with histological verification of its benign nature is the treatment.

Comedomastitis and plasma cell mastitis are rare, but achieve clinical importance because of physical findings which are similar to carcinoma. These lesions are characterized by dilatation of the ducts which contain inspissated material which can be expressed from the cut ends of the ducts much as toothpaste is extruded. They often exist as hard, poorly defined tumors with the consistency of carcinoma. The disease involves the larger ducts in contrast to cystic disease which more typically occurs in the acini and smaller ducts.

In comedomastitis the cheesy material produces stasis in the ducts and enlargement of the ducts. Comedomastitis is often associated with other breast diseases. Periductal inflammatory changes occur that often include collections of inflammatory leucocytes, particularly plasma cells, whence the process is called plasma cell mastitis. The latter may be one type or phase of comedomastitis. In these conditions the surrounding structures may be involved to produce nipple retraction, skin dimpling or fixation to the skin. One important feature in clinical evaluation may be an onset characterized by an acute episode of pain, tenderness and swelling in a non-lactating breast. Axillary lymphadenopathy may be present. Unless the tumor is of acute onset and rapidly subsiding, treatment should be surgical excision.

Traumatic fat necrosis is relatively rare in that it occurs in about 1 per cent of breast tumors. Trauma followed by ecchymosis preceding the presence of a tumor provides a helpful diagnostic clue. A history of trauma is lacking, however, in a majority of instances. As a clinical entity it achieves importance as a firm tumor, often with skin attachment, which is usually diagnosed as carcinoma. The pathologic features are those of a foreign body granuloma with fibrous tissue cells in different stages of development, lymphocytes, giant cells, necrotic fat and the characteristic presence of foam cells or lipoid phagocytes. It is more apt to develop in obese women or large pendulous breasts. The tumor is sometimes not detected for several months after trauma to the area. It may increase progressively in size over a period of months adding further to its mimicry of a malignant process. Any such persistent tumor must be excised to delineate it from carcinoma.

Of the benign tumors, which are true neoplasms, the Fibroepithelial tumors are the most common. These include the fibroadenomas and the duct papillomas.

Fibroadenomas are the commonest breast tumors in young women. They may also be found in the premenopausal and postmenopausal age groups. The presence of a palpable lump discovered while bathing or in self-examination is the most frequent symptom. Pain and tenderness may occur but are less common than in cystic disease of the breast. Physical findings are typically those of a discrete, firm, rounded or lobulated, movable, non-tender tumor. Skin attachment, nipple retraction and axillary lymphadenopathy are not characteristics of this tumor.

Gross pathologic findings reveal a firm or hard elastic mass with slippery or rubbery feel. When cut, the tissue bulges and the cut surface presents an irregular gray-white laminated appearance. Microscopic classification into intracanicular and pericanicular types, depending on the relative location of the fibrous proliferation to the elastica layer of the ducts and acini, has little clinical application. An unusual type is the fetal adenoma in which the epithelial tissue is hyperplastic and is in great abundance com-

pared to the fibrous tissue. Another unusual fibroadenoma variant is cystosarcoma phyllodes or giant intracanicular myxoma. This is a benign fibroadenoma which achieves a characteristically large size.

The treatment of fibroadenomas is surgical removal. Histologic verification is often necessary to delineate the tumor from carcinoma even though a strong clinical suspicion of its benign nature may be entertained. In young women under 25 years of age, though the clinical diagnosis may show a high degree of accuracy and the statistical incidence of carcinoma be quite low, it is advisable to excise the lesion because of the worry and anxiety which accompany a breast tumor.

Intraductal papilloma is a lesion which has met much controversial opinion among clinicians and pathologists. The presenting symptom is usually a sanguinous or serous discharge from the nipple. A palpable tumor is detectable on careful examination in less than half of the patients. Occasionally a tumor appears repeatedly, but disappears after discharge of serum or blood from the nipple. The discharge can usually be elicited by gentle massage from the same area of the breast consistently and the discharge appears at the same lacteal duct orfice on the nipple each time. Since the only normal secretion of the mammary gland is milk, any other secretion is indicative of a pathologic process. Most commonly the papilloma is located near the base of the nipple, although it may be found more peripherally. They often are multiple.

Treatment varies with the clinical findings and with one's school of thought in management of nipple discharge and papilloma problems. In the presence of a palpable tumor, the palpable mass should be excised along with the lacteal duct and histologic evaluation made to verify the absence of a malignant neoplasm. When no palpable tumor is present, two approaches are commonly practiced. One consists of excision of the involved lacteal duct system or the involved segment of mammary gland containing the papillomata. The other consists of simple mastectomy because papillomas are so frequently multiple.

Other neoplasms occurring in the breast or subcutaneous tissue, although rare in frequency, include lipoma, xanthoma, neuroma, neurofibroma, dermoid cyst, dermatofibroma, myofibroma and chondroma.

The supply of funds for medical research may have increased rapidly, but the supply of well-trained manpower presents a critical problem, according to the current issue of *Patterns of Disease*.

At present, about 20,000 professional research workers are engaged in medical research, and it is estimated that an additional 25,000 will be needed by 1970 if the projected expansion of medical research is to be achieved. Present training facilities, however, will provide only 19,000.

One hopeful trend is the steadily increasing number of medical school graduates who are entering research, or teaching, or both. It is estimated that about 8% of medical school graduates currently enter these fields, compared to only 2.3% a generation ago. In addition, the National Science Foundation is playing a significant role in helping to increase the supply of qualified workers. During 1958-59, the Foundation awarded 250 predoctoral, 59 postdoctoral and 32 senior postdoctoral grants for advanced training.

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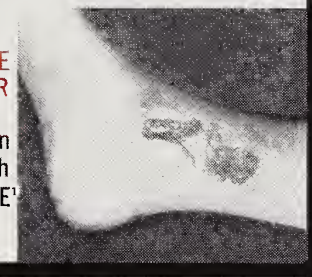
severe bruises
. . . swelling
. . . cleared
by fifth day[2]





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healed within
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narked reversal
in 3 days . . .
returned
to school . . .
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THROMBOPHLEBITIS

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in a week after
recurrent episode[1]





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Surgical Skin Planning For Facial Scars*

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School of Medicine

This article on surgical skin planing for facial scars adequately covers the important points and surgical care of skin defects. The article is exceptionally clear and, even though the procedure is painted as one of great simplicity, the author still presented some of the difficulties involved. I can heartily recommend the innovation relative to the use of Frigiderm rather than the customary Ethyl Chloride and likewise feel that the discontinuance of the wire brush and substitution with a revolving drum of abrasive is far superior. One might question the two-millimeter depth of abrasion advocated by Dr. Wilson. This should not be construed as the usual or average depth, since this may vary tremendously with the area involved and the individual thickness of skin in a particular area involved. Furthermore, I can only add that the choice of patients and the elimination of questionable cases is of vital concern to anyone using this surgical procedure.

BEFORE the film begins I want to talk to you a few minutes about surgical skin planing. My own attitude toward surgical skin planing is guided by this statement: "I do five times as much *ex*plaining to my patients as I do planing." I think that surgical skin planing is wonderful if done properly and if applied to the properly selected patient. However, it cannot be used to eliminate every facial defect which patients bring to us. It cannot make a 50-year-old woman look 22. It cannot do away with all of the blemishes that she wants us to remove. In fact, we only plane about one-seventh of the patients that appear and ask for this procedure. However, for the patient with deep pits, for the patient with scars from acne or chicken pox or occasionally from smallpox, it is a distinct boon. It is the only procedure we have ever found which renders service and permits the doctor to avoid saying, "I'm sorry, but scientificially and with any degree of safety, we have nothing whatsoever to offer you."

Surgical skin planing is not really new. The ancients wrote in the papyrus of Ebers that they used such things as pumice powder and powdered stones to try to grind away skin blemishes. Kromeyer as early as 1905 started investigating abrasion techniques of various kinds and worked at it some 25 years, writing several good papers. However, there were difficulties in those days, principally through bacterial infections; and having no good antibiotics or sulfonamides to fight them, they became justifiedly afraid to open up great areas of skin to the possibility of infection. Thus, Kromeyer's

*Presented for oral delivery before the Arizona Chapter, American Academy of General Practice, Scottsdale, October 17, 1959.

methods never became extensively adopted, although he had the basic principles as we use them today.

In 1937 Iverson began to ameliorate certain scars by abrasive techniques, and finally McEvitt began the use of sandpaper. They rolled No. 00 common carpenter's sandpaper over a piece of gauze, making a little cylinder, and just rubbed the skin. It was Abner Kurtin in New York in 1952, a very astute man and one who had a great deal of nerve, who really started our modern treatment known as skin planing, surgical skin planing, or dermo-abrasion. He developed the use of a dental machine which bore at its tip a wire brush about ¾" in diameter and ⅛" wide made out of stainless steel which was revolved at more than 12,000 RPM. This served as an abrasive machine to scrape away the top layers of the skin. He also used for this purpose ethyl chloride sprayed on the skin to refrigerate it. Refrigeration of the skin accomplishes two things: it makes the abrasion less painful, as you well know, and it renders the skin rigid enough to be able to be abraded smoothly. After all, it's a little hard to sandpaper something like a piece of sponge rubber smoothly. He presented all of these findings about 1952. They were not enthusiastically received. It took a lot of energy on his part to sell many other people on the trials.

We began at the University of Southern California the same year after hearing Dr. Kurtin's expositions, saying, "Perhaps there is something to this. It's a little too rough. We don't know whether we like it. Let's see if we can work with it and develop any improvements." Our own first contribution came in the form of a substitute for the ethyl chloride. Ethyl chloride has the disadvantage of being explosive, inflammable, and able to induce anesthesia in rather small amounts (as you all know, because it's used for a rapid induction under certain inhalational anesthesia techniques), but not in an entirely safe manner because occasionally there have been deaths from ventricular fibrillation. It has another major disadvantage for anyone using a skin planing technique because it has toxic effects upon the liver if inhaled in large quantities such as the doctors who perform this operation very frequently might acquire.

We introduced the use of dichlorotetrafluoroethane, which is one of the Freon series and has been commercially available since 1932 as a refrigerant for moderate cooling, for example, in water coolers for drinking fountains where it is not necessary to freeze but only cool. For you it is in a much more familiar place since it furnishes the energy, the motive power for spray cans for insecticides and a large number of materials including shaving cream and toothpaste. The only new feature we introduced was its use as a substitute for ethyl chloride in the freezing part of the dermal abrasion process. It has these advantages: it is not inflammable in any proportions, mixed with air; it is not explosive; it has no anesthetic properties whatsoever; it cannot induce anesthesia. Incidentally, when the doctor was planing around the nose and spraying ethyl chloride, patients used to go into an anesthesia occasionally without the doctor ever being aware of it. This was a dangerous situation. Dichlorotetrafluoroethane produces a degree of coldness that is great enough by its own surface evaporation to eliminate another one of Kurtin's original operative apparatuses, which was a blower (equivalent to that used to dry a woman's hair after she has had a shampoo) which enforced the rapid evaporation of ethyl chloride. Our new substance eliminated this. This is known as Frigiderm®, and you may have seen it on your own tables. It is also advantageous for all sorts of little freezing operations. It's even useful to minimize the pain of a hypodermic injection with a child; for instance, you can spray a little area a little and show the child on the hand that it is only cold and therefore even make the hypodermic hurt less.

Surgical skin planing, then, has gone through some developments. The last of these developments is the substitution of a fraise, which is a small emery wheel-like affair, again ¾" in diameter and about 3/16" wide, which is covered on its surface with small diamond chips. This obviates several disadvantages that we used to have with the revolving steel brush. The steel brush could suddenly and unexpectedly grab hold of the skin; or what was even more terrible, it could grab a hair, or grab a piece of gauze sponge in the vicinity, and wind it up rapidly in this business, pulling the instrument actually almost out of the hands of the operator and resulting frequently in a gouge into the skin out of all proportions to what we desired, and many times produing a scar. This diamond fraise

eliminates all of these difficulties, and it makes it really a pleasant process for doctors and a safe one.

The process of skin planing is not very painful. It is uncomfortable, but all of us have planed areas which have not been anesthesized for some reason or other such as the edge of some place or places which have thawed out, and we have found that this is not a horrible sensation, and most patients can stand it. However, it is worth while for us to make this procedure as painless as possible, and we do this with a premedical injection of Demerol® or Nisentil®. We advocate planing only on faces — we do not advocate planing chests and backs and legs and all the rest of the places that have been experimentally planed. We let the patient hold against the face ice bags, (really they are these "hot or cold" packs) which can be put in the refrigerator in the freezing compartment and which congeal into a sort of slush. These serve to cool the face for perhaps 20 minutes while the Demerol gets in its effect and while the operative room is being made ready. They are not actually necessary. They are just a nice little adjunct.

The procedure of surgical skin planing depends for its efficiency on these facts: the pilosebaceous apparatus, the hair and sebaceous glands, and the sweat glands penetrate quite deeply into the dermis, as much as 4 mm. on the face, and it is perfectly possible to remove all of the epidermis thoroughly except these remnants. We plane off 2 mm. or even 2½ mm. of skin. All of the epidermis is gone. But the result is not such as would be if all of the skin had been removed because the skin regenerates surprisingly rapidly from the myriads of small islands left of sebaceous gland, hair follicle and sweat gland elements. Because all of these are derived from the primitive ectoderm and all of them have the capacity of reverting to their original role of forming skin, every one of them starts right in to try to help in re-epithelializing these areas. And so from myriads of these little centers the skin regenerates its epidermis and also regenerates a good part of what you removed even below the epidermis. It is as if you were able to take a third degree burn and put on skin grafts of minute character, all of which would take in thousands and thousands and thousands of little islands. The result is similar to that which all of us have experienced when we fell down on a basketball court or while we were learning to roller skate and skinned a knee. As you all know, it looked terrible five or six days and hurt a little. But about the fifth or sixth day the edge of it started to peel off, and underneath it was a nice new skin, somewhat red and not as brown as the surrounding skin it is true, but still good quality of new skin. And that's exactly what happens with this procedure. We are not able, therefore, to go to all depths that we would like always in treating deep pits on the first application, because we might go deeper than the level of the deepest of the sebaceous and sweat gland elements, in which case we would get a hypertrophic scar. A hypertrophic scar is a scar which is produced by a wound which must heal from the edges over a fairly wide surface because it has no islands of epidermis in the center to help in its regeneration. And, a hypertrophic scar is an elevated scar which does not look appealing and is somewhat tender. I hasten to point out that this is entirely different from what is called a keloid. A keloid is an entirely different entity and depends upon some idiosyncrasy on the part of the skin of the patient for the production of excessive scar tissue for which we have little or no defense. Like an amateur welder trying to stick iron together ends up with a huge mass; it may hold, but it doesn't look good. This is a keloid, and as you well know, a keloid can develop even in a very fine scalpel scar in which the damage to skin was minimal. We have ruled it out as much as possible in prospective patients by looking at every scar the patient can present to us before we ever recommend planing. We ask them to show us all scars from injury; and if these patients have a distinct keloid tendency, we tell them this operation should not be advised. Similarly, hypertrophic scars can be eliminated by using a proper technique, simply by avoiding going too deeply.

Now I have a color film here which I think demonstrates the technique of this disorder, and I will comment through the film as it goes on. (If you will start the film now, and if we may have the lights out . . .)

The areas to be planed are outlined under strong light by being painted with gentian violet 1% solution, being careful to grind this material down into the depths of the pits because it serves afterwards as a guide as to the depth of planing. The eyes can be protected with

petrolatum, boric acid ointment or mineral oil. Sometimes we use plastic eye shields, but sometimes they are uncomfortable. Here is an instrument which we have developed, the hand piece which can spray the anesthetic refrigerant material from two little apertures along the sides. The advantage is that it avoids loss of time while the skin thaws partly, a few seconds loss by laying down the spraying can of anesthetic and picking up the abrading hand piece. The area selected is usually 2 to 2½" square. We outline it with gauze, as you saw, and then we spray it with the refrigerant for approximately 20 to 25 seconds. Cotton gloves are placed over rubber gloves on the assistant's both hands and on the left hand of the operator to hold the skin tightly tensed in all directions if possible, making it a plane surface rather than one with a great deal of hills and valleys or too much of a convex or concave surface. The instrument is held and used with a motion of the handle in right angles to the plane of the revolutions of the brush. This is to prevent grooves being deeper in one spot than the other. This is a most important observation. We do not plane by moving the hand piece in a direction parallel to the plane of revolution of the abrasive instruments. As soon as one area is completed it is covered with gauze to stop and absorb any bleeding which occurs. All of this oozing is capillary except when we treat such disorders as rhinophyma in which we may find large blood vessels which give us a little difficulty. The refrigeration also has an advantage in that during the planing there is an almost bloodless field, so that it is very easy to see the depths of planing. The gentian violet being in the depths of the pits which you wish to get rid of is easily seen; and when you've removed the gentian violet entirely, you have planed to at least the bottom of the pits. We usually go a little beyond that because we don't want those scarred pit bottoms left, but it's still a very good guide. I have never had a patient who complained so much of this process that we had to stop, even dealing with hypertonic, neurotic patients. You notice also a little metal "mud guard," or fender. This prevents the spattering of blood in all directions. Occasionally the mud guard gets filled full of abraded debris, but it can be easily removed and cleaned and put back in place while the nurse is changing the little squares of gauze to outline a new area. An area can be refrozen if desired and replaned. It is not very easy to plane skin that has thawed. It again becomes kind of rubbery. It is advantageous around the margins of these areas being planed to taper them out so that the junction is not quite so visible. While I said that the majority of the skin is replaced subsequently, and even the majority of the corium elements which you have removed is replaced, this takes a number of weeks or months to do, and even then it is not always 100% complete. The rapidity of spray is subject to considerable control by the pressure of the thumb on the releasing springs. That is, we can actually spray a tiny area by letting out only a very fine spray or a large area by pressing down hard enough to open both the sprays to their full capacity. We explain to the patients that for the next twelve days after this procedure they should arrange to be "out of circulation," both from a social standpoint and from a business standpoint. We tell them frankly, "You will look exactly as though you had sustained an explosion from an oven in your face. You will scare your friends and yourself if you look in the mirror. But it's all going to come out all right." They can shave gently as soon as all of the crusts have separated.

Now this "non-adherent" dressing (maybe it should be called a "diminished adherent" because it does stick a little bit), which I think you are familiar with by now, known as Telfa®, which has a little layer of cellophane on one side punctured by myriads of tiny holes, tends to stick less onto these crusts more than any other form of dressing. We put them on in this fashion, holding them on with Scotch tape principally to get the patient home. We tell the patient to remove these dressings in twelve to twenty-four hours, or at least by the next morning after the operation. Subsequently, surprisingly enough, we have been absolutely convinced that any form of dressing or any form of application of medicament should be strongly interdicted. It took a long time to learn that dressings are a disadvantage rather than an advantage. The dry crusts which nature produces over such areas within twenty-four to thirty-six hours are a much better protection than any artificial thing the doctor can recommend. About the fourth or fifth day the lighter planed areas will begin to indicate that the crusts are about ready to come away, and then those which are obviously floating can be removed by the patient. More ad-

herent ones should be left on until the ease of separation becomes obvious and should not be forcefully removed. On the fourth day we often use an ointment with an antibiotic in it. Although we don't think this is necessary from an infection standpoint, it softens those crusts which are too dry, hard and thick and which tend to crack and make fissures which are uncomfortable to the patient.

The sequelae of this procedure are rather few. There is always erythema. It would be astounding if the skin could go through this procedure and not show erythema. This lasts from four to six weeks, diminishing in quantity. In an occasional florid complexioned patient it may last longer. We have no defense against this except that it always goes back to normal.

Differences and variations in pigmentation are always important because patients end up looking somewhat like pinto ponies if they have very much pigmentation. The areas planed obviously do not have pigment for a considerable length of time until enough new skin has been generated and has keratinized to produce a depth of pigment, and then it often doesn't match the surrounding areas for as much as six to eight weeks. These areas are always easily sunburned, and we have to warn the patients about exposure to sun for several weeks. Deeply pigmented persons are somewhat doubtful candidates for planing because there may be in certain instances rather permanent disturbances in irregularities in planing. Our Negro dermatologist whom we are fond of in California, Dr. John Carney, has, however, cautiously planed a number of Negro patients without any trouble at all. Eventually the areas all came back to normal pigmentation. It has to be somewhat cautiously approached, however, because all of you know Negroes are particularly prone to keloid formation.

Now I think that I have covered all I can think of, but I will answer some questions if you wish.

Question: How soon do you do a second planing?

Dr. Wilson: We never do a second in less than a month, preferably four to five to six months, and in many instances a year. It is surprising how much nature continues to smooth out these areas in the succeeding months after this procedure. Many times a patient at the expiration of one month looks as though a second planing may be necessary; but if we can coax that patient to wait six months, both the patient and the doctor may agree that we don't need to do it a second time.

Question: Did you say you make this a one-stage procedure?

Dr. Wilson: We do this in the office on the entire face if necessary in one procedure. It goes swiftly. It is not a big hazard to the patient. It has not been a big problem.

Question: Who makes the instrument?

Dr. Wilson: The hand piece is made in Los Angeles. We developed this.

Question: For senile skin, such as for senile keratoses, how does planing work?

Dr. Wilson: It is serviceable and actually results in a "younger" skin. We plane less deeply than we do for acne pits because the senile person's skin is thin; and while the sebaceous elements are usually still present, they have a lot of actinic dermatitis, and so one has to be cautious. The senile epidermis is being produced by cells which have had the influence of too much sunlight over a lifetime in a person whose skin was poorly adapted to sunlight by inheritance. This actually, and I say this confidently, is somewhat of a rejuvenating procedure because the cells in the hair follicles, the ancestral cells which form hairs in that individual and which form sebaceous glands and sweat glands, have not been subjected to as much sun effect because they are from one to three mm. deep, and sunlight does not penetrate that deeply through skin, so that these cells then have not had 50 years of such extreme damage. After planing the skin is covered with epidermis, the cells of which are derived from an ancestry of cells that did not have that 50 years of actinic damage nearly so much at least, and it is actually a true, rejuvenating procedure for persons with senile keratoses.

Question: What about the patient who has had previous x-ray therapy?

Dr. Wilson: Anything which indicates that there are no sebaceous glands, hair follicles or sweat glands left is a contraindication for this procedure, because the only reason this works nicely is because of the myriads of little tiny islands of skin implantation resulting from such remnant.

The Polycystic Ovary Syndrome*

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and
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A history of the polycystic ovary is given including its treatment. The modern concept of etiology, the gross and microscopic appearance of polycystic ovaries, and the clinical syndrome accompanying this lesion are presented. The treatment recommended is corticosteroid therapy. Surgical wedge resection of the ovaries is carried out when adequate response to corticoids is lacking. An explanation of the mode of action of corticoids and of wedge resection is discussed.

R.R.L.

HISTORICAL

ABOUT 200 years A.D., Galen thought of the ovary as a "female testis." He may have based his limited observations on a case similar to ones described by Chéreau in 1844 as sclerocystic disease of the ovaries. Chéreau(1) was struck by the thick, pearly white sclerotic capsule. Many such ovaries were extirpated because of the belief that they were diseased or damaged by the sclerotic tunica. In 1895, Waldo(2) suggested wedge resection of the ovaries instead of removal. Forgue and Massabuau,(3) in 1910, reviewed the literature and described the condition as microcystic degeneration of the ovaries because of the many pea-sized follicular cysts occupying the cortex of the ovary. Rokitansky (1835) has been credited with an earlier reference to small cystic degeneration of the ovaries, but this was not comparable to the cases under discussion since his patient suffered from a hydatidiform mole. Stein and Leventhal(4) in 1935, described a syndrome of amenorrhea, obesity, infertility, and hirsutism associated with polycystic disease of the ovaries, and this syndrome now bears their names. Stein biopsied the ovaries for histologic study and found, incidentally, that many of these patients menstruated regularly following this procedure. This observation led him to advocate wedge resection of the ovaries as the treatment of choice for this syndrome. The syndrome is also known as the "large pale ovary syndrome." The more sophisticated gynecologist likes to refer to it as the "polycystic ovary syndrome," while the clinicians of France who have shown an interest in this type of ovary for over a century prefer the term "La Maladie Microkystic des Ovaries."

In 1804, the first ovariotomy was performed in this country by Ephriam MacDowell, and an era of gynecologic surgery was begun. Ovariectomy soon caught on with a fervor theretofor unknown. In 1872, Robert Battey of Augusta, and later Rome, Georgia recommended ovarian extirpation for severe dysmenorrhea, for sufferers of pelvic engorgement and nervous exalta-

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tion, excessive menorrhagia, hystero-neurosis, and for those who had a tendency to epilepsy at the time of menstruation. The procedure became known, and appropriately so, as the Battey operation. For a time the removal of both ovaries became quite a popular procedure, particularly in cases of cystic degeneration or sclerocystic disease. Could it be that the more critical surgeon was reluctant to perform so radical a procedure, and the operation was later reduced to removal of only a part of each ovary? It may be that with this thought in mind, Waldo (1895) recommended wedge resection. In this country, Findley(5) reviewed the problem in 1904, and though he admitted to performing bilaterial ovariectomy in many cases, he did wedge resection in others for the treatment of cystic degeneration of the ovaries. It is possible that the procedure of wedge resection subsequently became lost in the literature or forgotten, and perhaps was completely unknown to Stein and Leventhal.

WHAT DO POLYCYSTIC OVARIES LOOK LIKE?

The polycystic ovary is twice normal size (Fig. 1). Instead of being round to oval in shape, it is markedly elongated, with a pearly white capsule. Indeed, the ovaries have the appearance of testicles. Testicles are elongated; "normal" ovaries are rounded. It is understandable that Galen, who for 1500 years controlled medical thought in Europe, described the ovary as the female testis. "Female testicle" is indeed an appropriate term for in some ways such ovaries act like testicles in that the bearers of them frequently become quite hirsute.

WHAT IS THE PROFILE OF THE WOMAN WITH THIS SYNDROME?

More frequently the woman with the polycystic ovary syndrome is slightly on the obese side. She is quite feminine in appearance and as a rule has good breast development. Such women cannot be said to be virilized, but only slightly masculinized. They may have considerable hair on the face, abdomen, and breasts, but their voices are feminine, bodily contour is feminine, and breasts are well developed. One psychic characteristic that many of them who are married have in common is a great yearning for pregnancy. They want to prove their femininity. Figure 2 is a representative case.

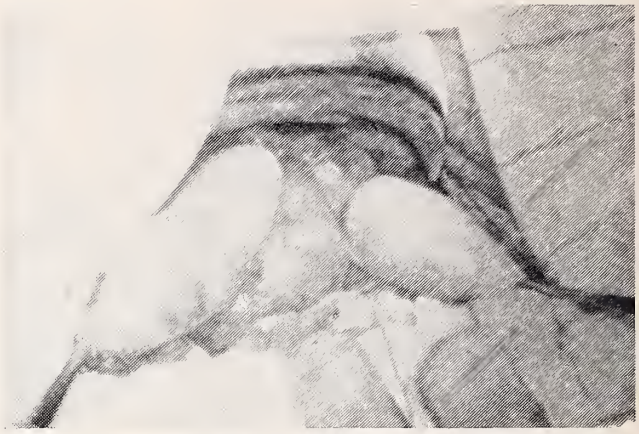


Fig. 1: Note elongated, large pale ovaries, typical of Stein-Leventhal syndrome, seen at laparotomy.

This patient had been married ten years, menstruated only once or twice a year, had good breast development, and complained of infertility. The diagnosis of large pale ovaries was confirmed by roentgen studies following transuterine insufflation of carbon dioxide. In the non-obese woman, the enlarged ovaries are readily palpable. This syndrome should be considered whenever hirsutism, menstrual disorders, ovulatory failure, and infertility are seen in combination in the individual patient.

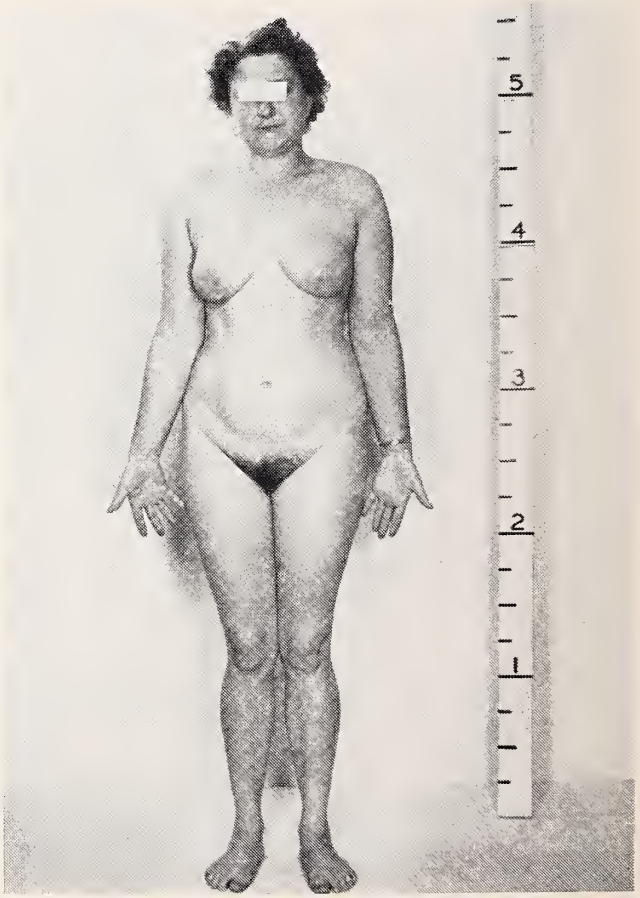


Fig. 2: Average type patient with Stein-Leventhal syndrome. Note feminine appearance with well developed breasts. This patient had functional amenorrhea. The hirsutism of her chin is not too clearly visible in this photograph.

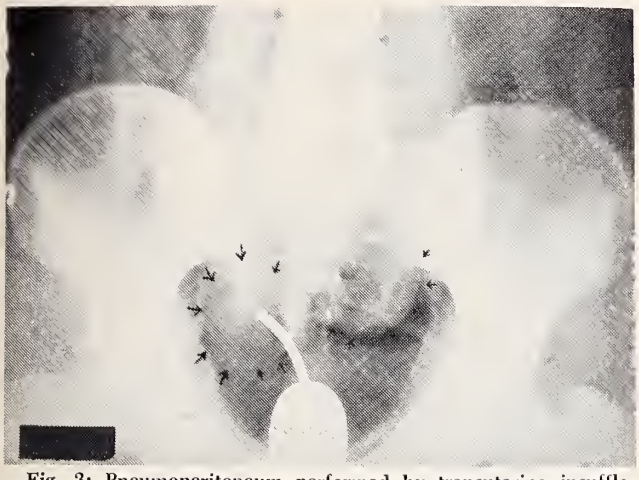


Fig. 3: Pneumoperitoneum performed by transuterine insufflation of carbon dioxide in patient shown in Fig. 2. Note enlarged ovaries seen in x-ray film.

WHAT DO THESE OVARIES LOOK LIKE ON HISTOLOGIC EXAMINATION?

The tunica is thickened, and the cortex fibrotic. There are dozens of small atretic follicles occupying the cortex. (Fig. 4) The follicles may be lined by a few layers of granulosa cells, and the theca externa is usually hyperplastic. The medulla and the hilus have a dense fibrous stroma. The capsule becomes thick because these follicles do not progress to maturation and rupture, and thus do not attenuate the cortex. Sometimes the stroma in the medulla or in the hilus of the ovary is tremendously hyper-

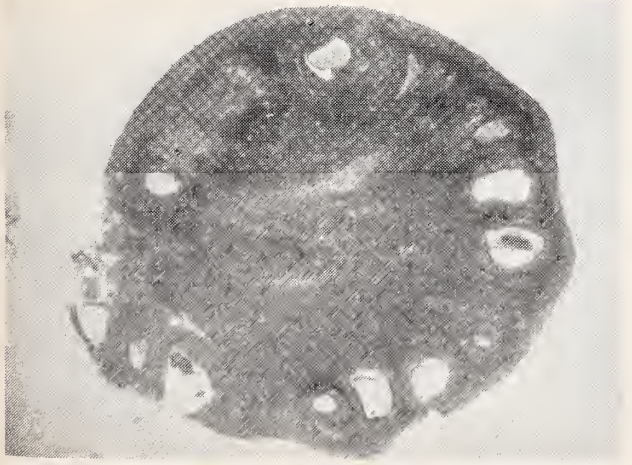


Fig. 4: Photomicrograph of cross section of polycystic ovary in patient with Stein-Leventhal syndrome. Note thickness of the tunica, numerous microfollicular cysts occupying the cortex, and dense stroma of the medulla.

trophied. The cells are large and fusiform, as if there is tremendous activity in this otherwise dormant mesenchyma.

WHAT IS THE MODERN METHOD OF THERAPY?

Either of two methods may be used in performing wedge resection, i.e., the longitudinal resection, as recommended by Stein, or a cross-section type of wedge with coning out of the hilus as recommended by Allen. The hilus represents the remnants and counterpart of the embryonic testis. Figure 5 gives one a good idea of the cross wedge and coned out pieces of tissue from the hilus as performed by the author.



Fig. 5: Note narrow wedge removed from ovary with numerous microcysts under the cortex and two sections of hilus cored out from the ovary.

WHAT EVIDENCE IS THERE FOR THE VIEW THAT THESE OVARIES ARE RESPONSIBLE FOR THE PSEUDO-MASCULINIZATION OF THESE PATIENTS?

Evidence is accumulating to show that the ovary is capable of producing small amounts of potent androgenic substances. Figure 6a is that of a young woman with the typical syndrome. Notice the hairiness of the chest and of the extremities. There is moderate facial hypertrichosis. The patient complained of menorrhagia of several weeks duration. She was seen in consultation, not because of the hirsutism, but because of the menorrhagia. In our study of this patient, urine was obtained for hormone assays and a suction curettage was performed to study the endometrium. The bleeding was arrested within 24 hours with progesterone. Cortisone therapy was started in the belief that we were dealing with a typical Stein-Leventhal syndrome. However, the endometrial biopsy revealed an adenoacanthoma which necessitated radical intervention, and a panhysterectomy was done. At laparotomy, typical sclerocystic ovaries were found. Though her urinary 17-ketosteroids fell somewhat on cortisone therapy, the values were reduced to normal levels only after both ovaries were removed. (Chart 1) In this particular case, the ovaries evidently were responsible for



Fig. 6A: Note hypertrichosis in patient prior to surgery.



Fig. 6B: Note disappearance of marked hirsutism following panhysterectomy performed for adenoacanthoma of the uterus; typical polycystic ovaries were also found.

a good ratio of her 17-ketosteroids because their removal was followed not only by the reduction in 17-ketosteroids, but also by lessening of her hypertrichosis. (Fig. 6b)

WHICH PATIENTS RECEIVE CORTICOIDS? WHICH ARE SUBJECTED TO WEDGE RESECTION?

It is our practice to place patients in whom a diagnosis of polycystic ovaries or Stein-Leventhal syndrome is made on a trial course of corticoids. Figure 7 is that of a hirsute young woman with functional amenorrhea and palpably enlarged ovaries. She was given cortisone and

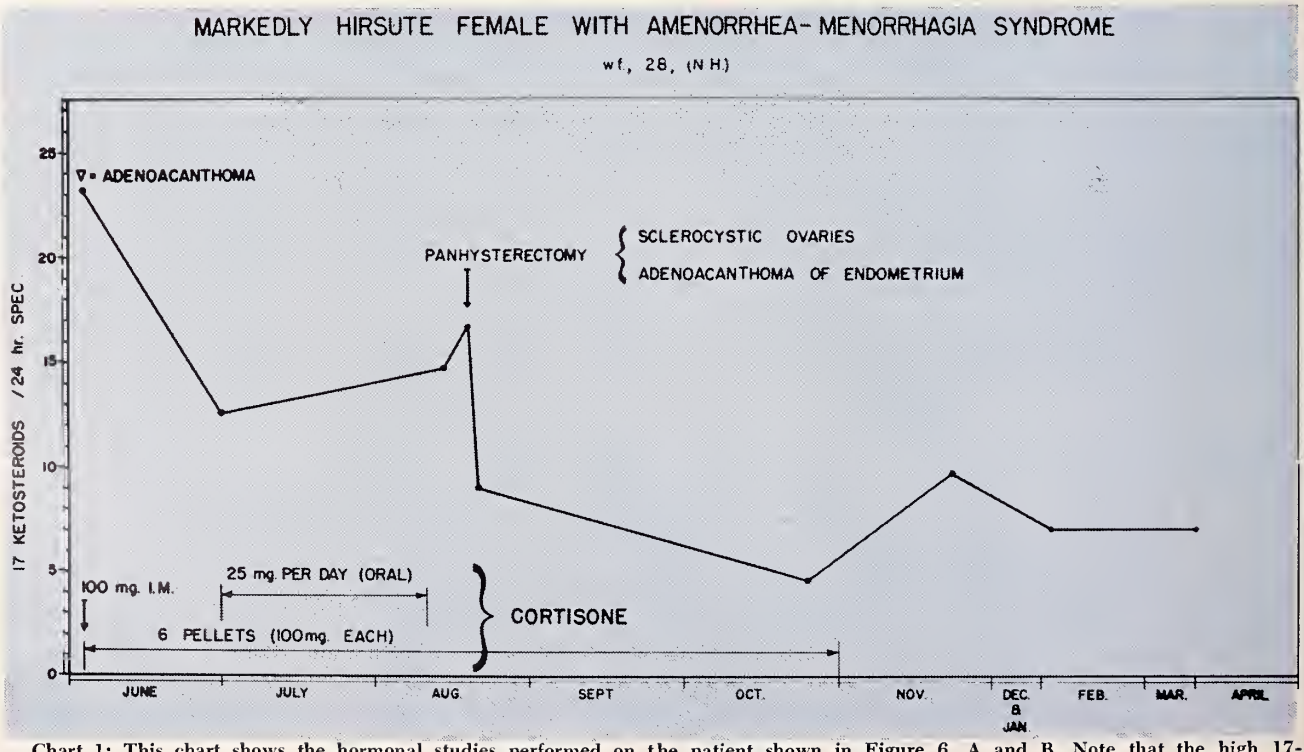


Chart 1: This chart shows the hormonal studies performed on the patient shown in Figure 6, A and B. Note that the high 17-ketosteroids were reduced by cortisone treatment. Following pan-hysterectomy there was a further reduction in urinary 17-ketosteroid excretion and the patient lost most of the hirsutism.



Fig. 7: Patients with Stein-Leventhal syndrome may be of normal or even of thin body build, although they are more frequently somewhat obese. In the patient shown here, the enlarged ovaries were readily palpable.

several ovulatory periods occurred during the twelve month's trial of therapy. It was felt that she was not ovulating often enough and a wedge resection was performed. After this procedure, she began to menstruate and ovulate each month, and conceived within a year. (Chart 2) If some patients do not show adequate responsiveness to cortisone therapy, then wedge resection is advocated.

It is our opinion that the cortisone-responsive cases have a slightly different syndrome than the so-called Stein-Leventhal syndrome. Such cases have been referred to as adrenal dysfunction. They are variants of a pituitary-adrenal-ovarian imbalance, where either the ovary, the adrenal, or both may be involved. If adequate response to cortisone is obtained, surgery may thus be avoided. If surgery is performed and failure is encountered, then a further trial of cortisone is indicated.

WHY DOES CORTISONE WORK?

The final answer is still conjectural. ACTH is the most important hormone produced by the anterior pituitary gland. At times the pituitary is preoccupied with its production because of various physical and/or emotional stresses to which the individual is subjected. The end result, in certain cases, is increased 17-ketosteroid production by the adrenals, resulting in hirsutism in those women who are sensitive to increased endogenous androgens. By inhibiting some of the ACTH production with corticoid therapy, the pituitary may turn its attention to some of the lesser trophic hormones, such as gonadotropins, and qualitatively better gonadotropins may be released, thus stimulating the ovary to ovulation.(6) In this manner the adrenal type of disorder responds to cortisone therapy, resulting in better pituitary-ovarian balance. On the

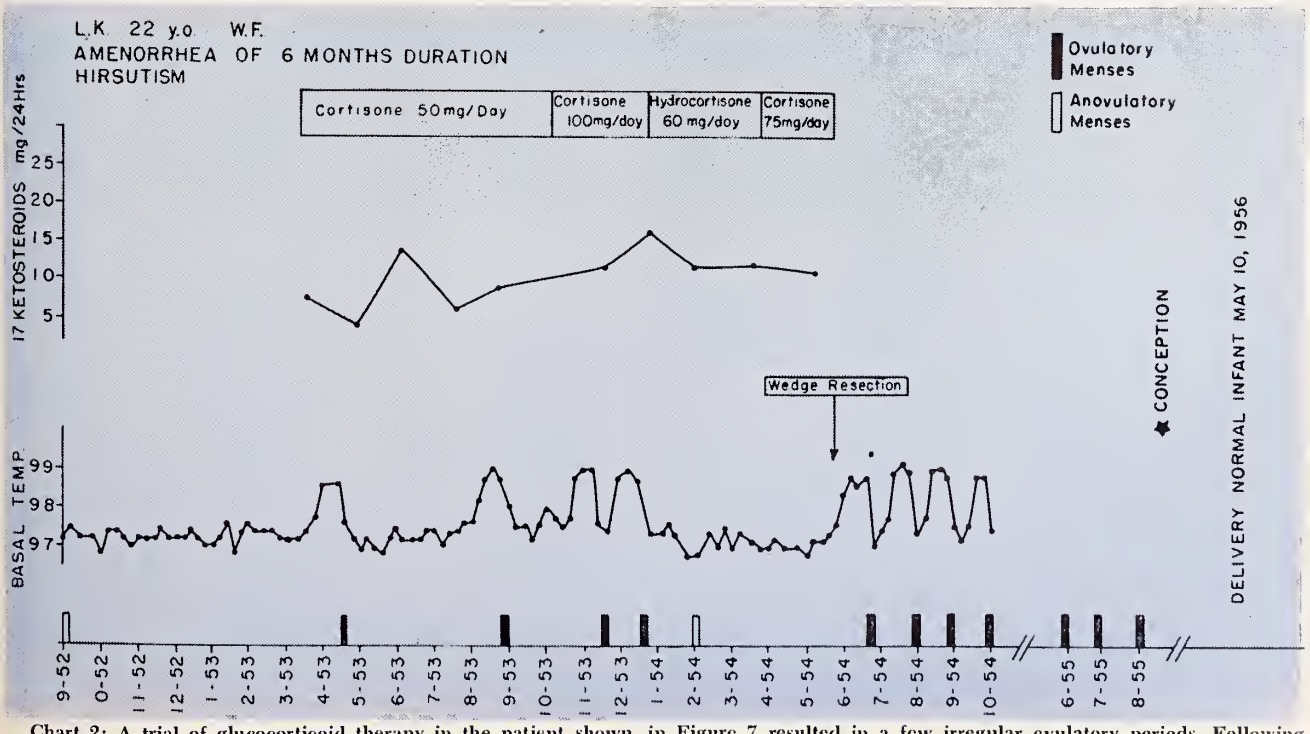


Chart 2: A trial of glucocorticoid therapy in the patient shown in Figure 7 resulted in a few irregular ovulatory periods. Following wedge resection of the ovaries, regular ovulatory menses set in and conception occurred within the year.

other hand, it may be conjectured that corticoids lessen the sensitivity of the hyperresponsive ovaries to gonadotropins permitting a more orderly design of function.

WHY DOES WEDGE RESECTION WORK?

Urinary gonadotropin assays in patients with the Stein-Leventhal syndrome are, as a rule, within normal limits. It may be that these patients are very sensitive to their own gonadotrophins. Patients with Cushing's disease do not produce excessive amounts of ACTH, but are sensitive to their own normal excretion of ACTH. The adrenals become hyperplastic. With removal of much of the adrenal tissue, the patient reverts to normalcy. Likewise, the patient with thyrotoxicosis does not produce excessive amounts of thyroid-stimulating hormone (TSH), but the thyroid becomes very sensitive to the amounts present and the thyroid gland becomes hyperplastic. Removal of two-thirds or three-quarters of the thyroid causes the thyrotoxicosis to disappear. It is our belief that the Stein-Leventhal patient is sensitive to her own gonadotrophins, and the ovaries become enlarged. Removal of a considerable part of the ovarian mass permits the return to ovulatory cyclic menses. This concept is borne out by the following case report. A 32-year-old female, complaining of amenorrhea, infertility, and a mild degree of hirsutism, had one ovary removed five years previously. The ovary was said to be filled with many little cysts. After surgery, she menstruated regularly and was able to conceive. A few years later she reverted to her amenorrheic state and hirsuitsm increased. On pelvic examination, a markedly elongated ovary was palpable. At laparotomy, the ovary was noted to be elongated to about three times normal length. This would appear to have been compensatory hypertrophy of the remaining ovary in a patient sensitive to her own gonadoptropins. The ovary was typical of the polycystic ovaries with a thickened capsule. (Fig. 8) Transverse wedge resection was done and the hilus was coned out. The patient began to menstruate with regularity once more. It is our belief that in some of these patients who are highly sensitive to their own gonadotropins, that numerous follicles are stimulated, marked hypertrophy of the theca interna and externa is induced, and the stroma often is activated. A condition of hormone imbalance is created which is manifested frequently by hirsutism and anovulation.

CONCLUSION

In the polycystic ovary (Stein-Leventhal) syndrome, the adrenals or the ovaries may be primarily at fault. A four to six month course of corticoids is indicated to see if a good therapeutic response may be obtained. If it is not, wedge resection of the ovaries will result, in many instances, in cyclic ovulatory menses.

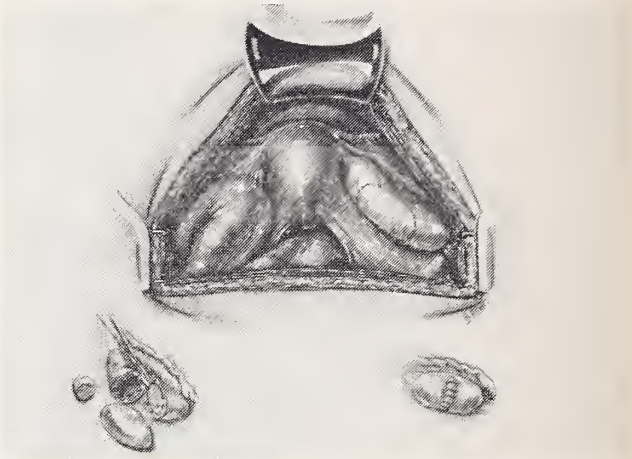


Fig. 8: Note markedly elongated ovary — thought to be compensatory enlargement in a patient with the Stein-Leventhal syndrome who had one ovary removed some five years previously.

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Arizona Medical Association Reports

The President's Page

Arma

Lindsay E. Beaton, M.D.



Lindsay E. Beaton, M.D.

Welcome home from vacation — to consideration of weighty matters.

The twentieth century has been given many appellations — the Age of the Common Man, the Atomic Era, the Dawn of Democracy, the Scientific Renaissance. Some of us who have served in the Armed Forces have been tempted to think of it as the Epoch of Paper. But to a lexicographer, or perhaps even to an ordinary citizen trying to decode his morning news sheet, it might well be called the Age of Abbreviation.

This condensation of language seems seriously to have begun with the proliferation of federal agencies under the New Deal, and most of us still recall, with mixed emotions, the CCC, the WPA, the NRA, and many more. During World War II, the Services compounded the practice, and ETO, SOPAC, METOUSA, and hundreds of other contractions were added to the common tongue of the soldier and sailor, along with certain pungencies found after demobilization to be not exactly welcome at the family dinner table. Finally, the increasing complexity of social and political organization, both nationally and internationally, has added literal thousands, until the reader of average information material is expected to recognize by abbreviation an astounding number of institutions, persons, and groups. One presumes that this situation derives from a journalistic attempt at simplification and space-saving, but at the same time the result has been a vulgarization of the language. At its extreme, combined with other linguistic trends, it contributes to incomprehensive new jargons, such as Pentagonese and Psychoanalytic Pidgin.

There are two kinds of abbreviation, as Graham DuShane classifies them in a recent editorial in *Science*. The classic type is formed from the initial letters of the words in a title. A modern second sort, which may descend from chemical notation, is one in which one or more of the first few letters are taken from each of the words of the title and so arranged as to make a new, contrived and pronounceable word. In the first category are most of the earlier examples, dating back to New Deal days or before, such as GOP, FBI, CIO, and so on. The second variety may be originally a military phenomenon. "Blimp" is an example of an early invention, from British "B" class "limps",

as opposed to rigid dirigibles. Naturally this species has bloomed since 1941 and throughout the war years and after and has enriched the martial vocabulary with sonorous terms like USAFISPA (United States Army Forces in the South Pacific Area), the evocative MOMP (Mid Ocean Meeting Point) of the Atlantic Fleet, and the more recent KATUSA's (Koreans augmenting the U. S. Army). There seems to be an increasing tendency toward this second style, and no self-respecting civic agency would publish its masthead till it had invented a name that could be twisted, by the rules here outlined, into a catchy vocable. So marked is the trend that radio stations, whenever possible, alter their call letters to make an ersatz word that can be sounded loudly as a cultural identification.

Medicine has always had its own verbal shorthand, arcane and at least in part designed, like the prescription, to confuse the laity. For example, PA does not mean to the doctor Public Address system but either pernicious anemia or paralysis agitans, depending on his professional preoccupations. MS does not medically stand for Master of Science but for morphine sulfate or multiple sclerosis. SOB indicates short of breath and not Senate Office Building. GI signifies to the physician neither galvanized iron nor government issue but gastro-intestinal. The discomfiture that arises from misunderstanding of these contractions was nicely illustrated in the case of the dignfied Colonel, Professor of Military Science and Tactics at the University of Arizona, who became enraged when he walked into a Tucson roentgenological office for a barium enema only to hear the receptionist sing out to a technician in the rear, "Mabel, your GI is here."

Well, all of this makes an innocent parlor game, if you weary of the idiot box some night, and I leave it at that.

Anyone who has busied himself with the affairs of the Arizona Medical Association soon learns that there are many abbreviations in common use for various committees and personages in the Society. AM, for example, always means *Arizona Medicine* and not ante meridian. BME stands for the Board of Medical Examiners and not for Bachelor of Mechanical Engineering. CO is Central Office, not Commanding Officer; PC is Professional Committee, not post cibum; IC is Industrial Commission, not Illinois Central railroad; SAC is Scientific Assembly Committee, not Strategic Air Command. Coming down to persons, SW conveys not Southwest but our legal firm, Snell and Wilmer, the habitat of our unequalled counsel, Edward Jacobson; RC throughout the Association always signifies not Red Cross or Royal Crown cola, but the incomparable Robert Carpenter, our Executive Secretary; and PB suggests his Assistant, Paul Boykin, and not the metal lead — certainly not in the energetic Mr. Boykin. Then there are our ancillary cohorts. WA stands for the Woman's Auxiliary, not Western Australia. BC denotes Blue Cross, not British Columbia. And BS means Blue Shield.

Perhaps RC and PB of the CO should publish a glossary in AM.

All of this is a long preamble to a short suggestion. The Arizona Medical Association needs an official abbreviation. For want of one the press has been using AMA, which is obviously already preempted, and the application of which is at times embarrassing to us. Some in the CO have had recourse to TAMAI (The Arizone Medical Association, Inc.) This I find vaguely oriental in appearance and objectionable in pronunciation, for it is sounded to remind one of Debbie Reynolds twittering a popular balled only recently and unlamentably absent from the radio waves. DuShane has pointed out that there are short forms better left unvoiced; he cites DOD (Department of Defense) as one. And the American Association for the Advancement of Science would rather, he says, have you call the AAAS "the A-cube-ess" (A^3S) or the "the triple-a-ess."

Let me then speak for ARMA, not from the Latin, though the allusion is not inappropriate, for our Society would like to be regarded as part of the physician's "arms" in his battle against disease, but as a word constructed from the *AR*izona *M*edical *A*ssociation. This has good precedent in its method of formation; it is easily pronounced; it has no offensive connotations; it robs no other organization. Even the gentlemen of the press might be induced to try it.

Perhaps, like other noble experiments, this notion is destined only for oblivion, but the Association does deserve its own distinctive abbreviated title.

SUMMARY FROM THE SECRETARY MEETING OF THE MEDICAL ADVISORY COMMITTEE SOCIAL SECURITY ADMINISTRATION BALTIMORE, MAY 18, 19, 20, 1960

To: The Board of Directors

As was noted at the last Board of Directors' meeting, I was asked to attend a meeting of the Medical Advisory Committee of the Social Security Administration in Baltimore, Maryland, May 18th, 19th, and 20th, 1960, as a representative of The Arizona Medical Association. I accompanied Doctor Palmer Dysart, Arizona Vocational Rehabilitation Medical Consultant who was also an invited participant. Other states represented in a like manner were California, Minnesota, and Pennsylvania. The following is a narrative summary of the discussions based on notes which I made at the time.

The meetings were held in the new Social Security Building just outside Baltimore where approximately 8,000 persons are employed. The first day was largely one of orientation and briefing of the invited participants on the Social Security Program as related to the administration of the Disability Program. Specific problems discussed were those of the purchase of medical evidence and the procedures of remediability of causes of disabilities. It was stated that as of January 1960 there are 14,000,000 beneficiaries of social security. These included the aged men and women, young widows and children, and those individuals covered by the Disability Program. It was stated that 57,000,000 are fully covered under the Social Security Program and that at the present time 500,000 individuals are receiving disability benefits, while 100,000, while disabled, receive the "premium waiver" or "freeze" of social security benefits, having not yet reached the age of 50 which is now the minimum age for coverage. It was stated that the average benefits of an individual disabled for his life time (covering all ages of onset of disability over 50) were $67,000. Thirty-five thousand individuals were accepted for rehabilitation services on a state level, these having been screened and analyzed by the state agencies for referral. Of these 900 have been rehabilitated; 7,900 have had their cases closed as not being remediable; 2,200 have been denied; and 24,000 are now receiving or waiting services. It was pointed out that vocational rehabilitation depends to a great extent on the motivations of the individual to be rehabilitated. It was suggested that this large, unexplored area should be evaluated by psychiatrists.

At this point, the discussion concerned the inadequacy of present forms used to obtain information from doctors. It was noted that these were not the same as the usual insurance forms filled out and that the information usually received was inadequate for the determination of disability. During this and in subsequent sessions, a great deal of time was spent in discussing the definition of disability and the means of its determination. This led to recurring discussions of considerable depth relating to the purchase of medical evidence in establishing disability, and the costs thereof. Concern was expressed that the program projects government agencies more directly into the area of providing diagnostic medical services for claimants under the Social Security Program. This appeared particularly pertinent inasmuch as it was stated several times that Congress was expected to lower the age for qualifications for disability benefits under Social Security from 50 to age 25 this year. Mr. Arthur E. Hess, Assistant Director of the Social Security Program, made the following statement: "It is fair to say that for identical services or examination, the state has to pay the same fee whether due for OASI, DR, or DVO, but if they wish to differentiate they can modify, but not exceed the highest fee paid for any other state or federal fee program. The difficulties arising in states are due to their inability to vary the fees because of state policy or law."

At this time, I was asked about the feeling of the doctors in Arizona regarding insurance schedules used in our state agencies. I stated that the state agencies adhere to the Industrial fee schedule which had been arrived at through the efforts of The Arizona Medical Association, and its sub-committee on Fee and Contractual Medicine, that this schedule was accepted as a special situation for state agencies and did not indicate that The Arizona Medical Association felt that it was either average or adequate in terms of fees ordinarily charged by physicians for private care.

It was stated that the disability allowance rates ranged from 50 to 60% of claimants on a national basis. This varied somewhat in different states depending upon the evaluation of

cases, some being more liberal than others. The disability guides have a certain degree of variability, but are, in general, based on the following factors:

(1) Individual must have 5 years of insurance status under the Social Security System.

(2) He must have a medical disability which is medically determined by history, physical examination, and confirmed by laboratory work.

(3) The duration of illness must be at least 6 months and must be continuous.

(4) The disability must be non-remediable in the sense that remedy must be available, acceptable, and safe.

(5) Individual must not be working.

The full session of the Medical Advisory Committee was opened by Doctor J. Duffy Hancock with a statement that the two chief problems to be discussed concerned the prompt payment of benefits and the establishing of reasonably uniform standards for disability payments. Mr. Hess stated that the current status of processing of claims requires one month, and that the current disability allowance rate is approximately 50% of claims submitted. He further discussed the recommendations of the Harrison Subcommittee of the House, Ways, and Means Committee which has been holding hearings concerning the operation of the Social Security Administration and its Disability Division. He stated that the federal government lacked the authority to overrule a state agency denial of a claim, that the Harrison Subcommittee had made no recommendation concering this, and that the Medical Association would react unfavorably to any change in the status of authority on this point. He noted that the Appropriations Committee has re-opened a discussion regarding the cost of state operations due to the rising costs resulting from the time lag in the staffing of State Agencies and the rising costs of consultative examinations both a result of increased numbers and increased costs per case. There was pressure from the Harrison Subcommittee to streamline the entire operation to obtain better efficiency. A motion was made that a subcommittee of the Medical Advisory Committee be appointed to study the function of the state agencies in the OASI operation and recommend any changes indicated. It was suggested that the American Medical Association sources be used for collection of information in this regard.

Doctor William Roemmich, Chief Medical Officer of Division of Disability Operations, spoke briefly stating that documentation and the quality of records has improved. There have been increased numbers of consultations; they have been more adequate and have resulted in more allowances being paid. Doctor Palmer Dysart related the procedure used in the State of Arizona in obtaining information and consultative examinations. He stated that it was usual to request a supplementary report or summary of a case from the patient's private physician and that subsequent to this a consultative examination usually by a different physician was obtained to bring the case to a current status. A further consultation examination was utilized if indicated by a conflict of opinion or by the nature of the impairment under consideration.

Doctor Lieberman of California stated that the State of California does not pay physicians for summaries of cases requested by the state agencies. Doctor McGee stated that there was a reluctance of the claimants to pay for any examination himself. It is usual for the claimant to wait until the government will pay for such examination. He further stated that several times, however, it was incumbent upon the claimant to present the medical evidence for the initial consideration of his claim and that he was ordinarily required to meet the cost of this. Doctor Farrell stated that the usual fee for a consultative examination should be paid and it should not represent a welfare fee. Doctor Cox, an orthopedist of California, stated that in California a panel of consultative physicians was used and a fee schedule determined by law was followed and could not be varied except through a legislative approach. He stated that if the federal government operates a disability pension fund, it should independently determine the value of medical information rather than utilize state agencies fee schedules. Doctor Wade stated that most state agencies are tied to the vocational rehabilitation fee schedule inasmuch as one agency administers two programs, and it is extremely difficult to administer two different fee schedules in such a situation.

It was again stated that existing medical evidence must be presented by the claimant to develop his case if it is not paid for by the government. There appeared to be concern

over a reference letter No. 97 which would allow a claim "without medical evidence." It was stated that this would be an extremely rare case and that medical evidence should be available somewhere on any case. The type of case referred to appeared to be that of a double amputee or of blindness.

The trends in litigation were discussed by representatives of the legal department. Cases were cited in which the decision of the disability agency had been reversed by a court. It was stated that the courts usually accepted and upheld medical consultations, but this was not always true. A consultant report carries more weight if, in addition to the usual technical reports, there was a report in layman's language as to the claimant's physical abilities and mental status. It was noted that a report should emphasize what an individual claimant can do, not what he cannot do.

A report of the Office of Hearings and Appeals was received. It was again emphasized that the reports should contain medical language a layman could understand. The legal procedures followed were essentially those in any court. Fees for testimony were discussed and apparently varied from $50 per hour in the State of Indiana to a fee of $75 to $100 for each appearance in the State of New York. The consultative examiners are called only where there is demand for cross-examination. It was stated that some physicians give ultimate disability decisions which are unsupported by evidence (especially private physicians). It was noted that the disability hearings give due weight as to activities on the basis of lay evidence (shopping, driving, walking).

The definition of a consultative report was given as follows:

Ancillary evidence or the information not included in the initial report to complete claims. It was stated that if the initial report was deficient in information, a fee would not be paid. However, if additional information was requested, a fee would be paid. Doctor O'Malley of Minnesota stated that narrative reports were used in that state and were better than many types of forms which they had attempted to devise. He stated that there was a differential between information required for diagnosis and treatment in ordinary medical cases than that required for functional evaluation in disability.

On the final day of discussions evaluation policies at both the federal and state levels were considered. It was noted that the agency suggestions for guide revisions in the determination of disability from such impairments as epilepsy and intervertebral discs were much too loose. A very vigorous protest to such a loosening up was made by the Medical Advisory Committee and it was further recommended that the guide of remediability be applied to such cases and that disability be based on the residuals of impairment after treatment. The question of disability due to psychological factors rather than organic disease was also discussed and noted to be a very difficult area for determination. It was strongly reiterated that non-medical factors do not belong in medical guides; these factors being employability and social factors. In reference to epilepsy, it was stated that work is therapy for epileptics and that many of them make good employees and they should not be encouraged to file disability claims. Further discussion regarding the philosophy involved in the extension of disability claims to disease states which ordinarily do not interfere with employment such as obesity, ensued. The discussion of obesity as to remediability and the specifying of a percentage of weight increase for determination of disability, plus the many psychogenic factors involved in obesity were considered. It appeared that it was the feeling of the Committee that this probably did not belong in the category of impairment under most situations.

This summary represents notes made during discussions and intended to represent as nearly as possible a record of the general context of discussions. I would like to add that Arizona's Vocational Rehabilitation Consultant, Doctor Palmer Dysart, exhibited a remarkable fund of information of all subjects covered, and was frequently requested to indicate procedures which were utilized under his direction in the Arizona agencies of rehabilitation and disability program. His remarks were carefully noted and his suggestions well received by the entire Committee and were, in my estimate, consistently in the interests of the practicing physician and the efficient administration of the program at a state level.

Respectfully submitted,

Lorel A. Stapley, M.D.

June 8, 1960

COMMENDATION

Roland F. Schoen, M.D.

The Board of Directors of The Arizona Medical Association, Inc., in meeting held June 5, 1960, on motion of the President, Doctor Lindsay E. Beaton, unanimously adopted the following resolution:

"That the Board of Directors especially commend Roland F. Schoen, M.D., vice-chairman of the 1959 Scientific Assembly Committee, for his enthusiastic and imaginative direction of publicity for the 69th Annual Meeting and for his alert and attentive management of the procedural details of the convention; and that it extend the grateful thanks of the Association for these labors, which so substantially contributed to the success of the meeting."

THE ARIZONA MEDICAL ASSOCIATION INC. BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Sunday, June 5, 1960.

BOARD OF DIRECTORS CHALLENGE

House of Delegates Election — Central District Director

The following self-explanatory letter dated May 11, 1960, over the signature of David C. James, M.D., Delegate, Maricopa County Medical Society, was presented for review:

"Gentlemen:

"I wish to go on record as protesting the election of the Central District Directors at the meeting of the Arizona Medical Association, Inc., conducted on May 6, 1960, during its annual convention, for the following reasons:

"For your information the official count as reported to me by Mr. Robt. Carpenter was as follows: Dr. Tuveson, 41 votes; Dr. Barker, Jr., 14 votes; Dr. Reed, 34 votes; Dr. Flynn, 24 (22) votes; Dr. Stern, 27 votes. The total votes cast was 138. The total number of authorized Delegates and Officials to the convention present *and* voting therefore would be 69, inasmuch as two Directors were to be elected.

"It becomes clear from these figures that Dr. Tuceson has a clear majority of 41 votes of the 69 ballots cast by the voting members. There is no question about his proper and legal election.

"However, none of the other nominees have a majority. Chapter 5, Section 1, of the By-Laws of the Arizona Medical Association, Inc., as revised to 1959, states 'If no one of three or more candidates for a particular office shall receive a majority of the votes cast, the two with the highest number of votes shall be the candidates in a run-off election'. Inasmuch as Dr. Tuveson had a clear majority, it would become obvious from this section of the By-Laws that there should have been a run-off election between Drs. Reed and Stern, these two having the highest number of votes among the remaining nominees. I feel that this was either an oversight by the Speaker of the House, or a misinterpretation of the By-Laws as published.

"How may this be resolved? Two possibilities occur to me.

"Chapter 5, Section 1, of the By-Laws states 'All elections for offices shall be conducted as a part of the business of the regular annual meeting of the House, etc.' Since the meeting of the House was adjourned sine die it could then devolve upon the Board of Directors to resolve this question. This opinion would be substantiated by Chapter 6, Section 3, of the By-Laws which states, 'The Board shall be vested with the control and management of the affairs of the Association subject only to directives from the House, and shall have the full power and authority of the House between meetings of the House.' This would be one alternative.

"A second, and more democratic, alternative (since the Delegates were disenfranchised by the interpretation of the returns by the Speaker of the House) would be to acquaint the authorized Delegates and voting members of the House with the situation and to poll them by mail ballot.

"The objection could be raised to the second alternative that there is no provision for the election of officers by mail ballot.

"However, this could be overcome by the Board of Directors suspending the rules, on this particular issue only, to accomplish a decision on this matter.

Respectfully submitted,

(S) David C. James, M.D.
Delegate, Maricopa County"

It was moved by Doctor O'Neil, seconded by Doctor Jarrett and unanimously carried that the office of Central District Director (held by Wallace A. Reed, M.D. from May 6, 1960 to

date) be declared vacant, due to an irregularity in election.

It was moved by Doctor O'Neil, seconded by Doctor Beaton and unanimously carried that Wallace A. Reed, M.D. be elected by this Board of Directors to complete his term (as Central District Director) until the next meeting of the House of Delegates.

Wallace A. Reed, M.D. entered the meeting at this point.

Doctor Smith introduced Doctor Reed of Phoenix, Central District Director, a new member of the Board, for the term 1960-61.

BOARD ORGANIZATION

Doctor Beaton placed in nomination the name of Clarence E. Yount, Jr., M.D. as Chairman of the Board for the ensuing fiscal year 1960-61.

It was moved, seconded and unanimously carried that the nominations be closed, the Secretary declaring Doctor Yount, Jr. unanimously elected Chairman of the Board for the ensuing fiscal year 1960-61, whereupon Doctor Yount assumed the Chair on relinquishing of the gavel by Doctor Smith.

COMMITTEE MEMBERSHIP APPOINTMENTS

The following committee membership appointments were made by the President, Lindsay E. Beaton, M.D., for approval by the Board of Directors in accordance with the By-Laws of this Association:

See appointments as listed page —— this issue.

FINANCIAL REPORT – 1960 ANNUAL MEETING

Clarence E. Yount, Jr., M.D. Vice President (as former Treasurer) submitted a financial report setting forth in detail the receipts and expenditures associate with the conduct of the 69th Annual Meeting of this Association held in Scottsdale, Arizona, May 4 through 7, 1960. Expenditures to May 31, 1960 total $12,346.11; Receipts to this same date total $12,562.25. Anticipated additional Receipts are estimated at $1,462.10; estimated Expenditures at $1,700.00.

The report of the former Treasurer was accepted.

1961 ANNUAL MEETING ARRANGEMENTS – SCIENTIFIC ASSEMBLY COMMITTEE

Location

Invitations are in hand, received from the HiWay House, Tucson; Safari Hotel, Scottsdale; and the San Marcos Hotel, Chandler, cordially inviting the Association to use their respective facilities for its 70th (1961) annual meeting.

It was moved, seconded and unanimously carried that the Board of Directors recommend to the Scientific Assembly Committee that the Safari Hotel in Scottsdale be considered for the 1961 annual meeting.

Dates

The Safari Hotel, Scottsdale, is reserving the following dates for consideration and selection of the Association: Tuesday, April 25, 1961 through Saturday, April 29, 1961; and Tuesday, May 2, 1961 through Saturday, May 6, 1961.

It was moved, seconded and unanimously carried that the dates for the Annual Meeting be April 25 through 29, 1961.

It was moved, seconded and unanimously carried that the scheduling, including the annual Board of Directors meeting and the meetings of the House of Delegates, be as near as possible to that which was employed during the past (1960) meeting.

In the matter of scheduling the annual Golf Tournament, Doctor Smith suggested that the President's Dinner-Dance be held after such event, at which time awards could be presented the Golfers, eliminating the need for a second banquet therefor.

It was moved, seconded and unanimously carried that possibly the Golf Tournament could be scheduled Wednesday morning, April 26, 1961, the awards dinner to be combined with the President's Dinner-Dance (Friday evening, April 28, 1961), subject to final decision of the Scientific Assembly Committee.

Fees

It was moved and seconded that the Registration Fee of $10.00 be continued in 1961, which was carried, there being one negative vote cast.

In the matter of Technical Exhibit Fee previously established at $150.00, question was raised as to the advisability of an increase for 1961. The Executive Secretary reported that such fee is established nationally on the basis of registration, and while 405 was the highest recorded during the Annual Meeting just concluded, it was his opinion, on the basis of the national calculation, an increase is not indicated at this time; however, he agreed to make inquiries during the forthcoming Annual Meeting of A.M.A. Unless there is indication other-

wise, the fee of $150.00 will be established for 1961.

Guest Speakers — Honorarium

Doctor Smith proposed that consideration be given to providing for an honorarium for guest speakers, possibly in the sum of $100.00 to $150.00, pointing out that it is becoming the practice in other meetings to offer such gift to attract participation.

It was moved, seconded and unanimously carried that the Scientific Assembly Committee be authorized to consider providing some type of gift for guest speakers participating in the 1961 meeting at a cost approximating $25.00.

Technical Exhibits — Participation

The Medical and Dental Finance Bureau of Phoenix seeks space at the 1961 Annual Meeting to exhibit its Budget Plan operation.

It was moved, seconded and unanimously carried that the Scientific Assembly Committee continue its present policy, limiting technical exhibits to ethical pharmaceutical, instrument and equipment supply firms.

MEMBERSHIP CLASSIFICATION CHANGES

Maricopa County Medical Society

It was moved, seconded and unanimously carried that the Board of Directors approve Associate membership, dues exempt, on the basis of disability (illness), retroactive to December 31, 1959, for Thomas S. Collings, M.D. (Scottsdale) in accordance with recommendation of the Maricopa County Medical Society.

It was moved, seconded and unanimously carried that the request of Maricopa County Medical Society that Frank J. Vigil, M.D., be considered for Associate membership in this Association, dues exempt, account pathology residency at Good Samaritan Hospital, Phoenix, be returned to determine its ruling as to qualifications for membership in the Society.

COMMUNICATIONS

Arizona Pharmaceutical Association — Appreciation for Plaque Award

The Arizona Pharmaceutical Association, Inc., by letter dated May 9, 1960, on behalf of the pharmacists of this State, thanked this Association for the plaque awarded to it for its participation in the Arizona Plan for contributions to the American Medical Education Foundation. The plaque will be hung with pride in its Association offices and it is felt certain its members will increasingly take advantage of this method of expressing their appreciation to their physician friends to the mutual benefit of both professions.

Received and filed.

Arizona Pharmaceutical Association, Inc. — Resolutions

The Arizona Pharmaceutical Association, Inc. called attention to three resolutions passed by it during its annual meeting held in April last; i.e. Resolution No. 5 opposing any outside regulations which stifle the profession's and industry's incentive to further progress in research and development which would militate against the welfare of its profession, which would restrict the free choice of drugs by physicians and which would regiment against good medical practice and undermine one of our Nation's most precious assets — the highest health standards in the world today; Resolution No. 6 rigidly opposing H.R. 4700, the Forand Bill, or any other similar legislation which can be classed as a deliberate intrusion on the private practice of medicine and pharmacy and that all association membership voice objection to its elected representatives in the 86th Congress; and Resolution No. 7 that the Association give immediate consideration to formulating a suggested amendment to the Food, Drug and Cosmetic Act which would eliminate mail traffic in prescription documents.

Received, filed and Association commended for its actions.

The National Foundation

The National Foundation advises Leslie B. Smith, M.D., nominated by this Association, has accepted reappointment for the second year to serve on the Foundation's Health Scholarship Committee.

Received and filed.

OTHER BUSINESS

Medical Service Committee — Youngtown

Miss Dina Rees Evans, Chairman of the Committee on Medical Service for Youngtown, Arizona, by letter dated May 5, 1960, seeks in its behalf counsel of this Association in its exploration of possibilities of developing some sort of civic medical center, the chief function of which would be preventive supervision, advice as to source of treatment, and immediate availability in cases of emergency, subsidized by regular

contributions from members of the community.

It was directed that this matter be referred to the Professional Committee for review and comment, as soon as possible, and that Miss Evans be so informed.

1960-1961 AARS Essay Contest

The Woman's Auxiliary to this Association seeks guidance as to its participation in the 1961 AAPS Essay Contest.

It was moved and seconded that we inform the (Woman's) Auxiliary we would support them in this Essay Contest in cooperation with AAPS this year. The motion was lost.

It was moved, seconded and unanimously carried that Miss Ann DeLeeuw be commended for her success in the 1960 Medical Essey Contest, achieving the national second prize on the subject: "The Advantages of Private Medical Care."

House of Delegates — Resolution 2-A

Resolution No. 2-A referable to the inclusion of doctors of medicine under the provisions of the Social Security Act, adopted, as amended, by the House of Delegates of this Association, May 6, 1960, had attached to it a recommendation of the Reference Committee on Resolutions, likewise adopted, that the Board of Directors develop an educational program for our (Association) members, explaining the reasons underlying the position of the House on this issue.

It was moved, seconded and unanimously carried that this matter be referred to the Medical Economics Committee for implementation.

House of Delegates — Resolution 5

Resolution No. 5, recommending repeal of that portion of the statutes requiring a standard serologic test, though not adopted by the House of Delegates of this Association, May 6, 1960, the Reference Committee on Resolutions recommended the following:

1. "That the resolution (as amended) be referred back to the Board of Directors of our Association for whatever action the Board deems advisable, bearing in mind that a number of other State organizations had a vital interest in the promotion and passage of this statute as a law of our State; and

2. "That the Board (of Directors) be requested to report back to this House of Delegates at its next regular meeting (with) their recommendations for further implementation of this resolution."

DOCTOR BEATON: I took the trouble to check up on how this resolution came out of this Board of Directors and I'd like it stated for the record because the resolution was presented on the floor of the House as coming from the Board of Directors and it did, but we had received a resolution written by the Professional Committee by its sub-committee on Venereal Diseases and we re-wrote that resolution for the Professional Committee and then presented it over our name because we had re-written it. However, this did come, not out of this Board but out of the Professional Committee, and this was unfortunately not made clear on the floor of the House because we had all forgotten it. I presume it had been studied by the Professional Committee before it was made.

Referred to the Executive Committee with the specific direction that it meet with representatives of the Arizona Ministerial Association regarding medicine's position on the subject and report back to the Board of Directors.

Pima County Medical Society — Temporary Permits.

The Pima County Medical Society, by letter dated May 18, 1960, advises that its Board of Directors, in meeting held April 28, 1960, moved that the Society recommend to the Legislative Committee of the Association that it give consideration and support to a change in the Medical Practice Act, Section 67-1103, in order that a qualified individual may receive his license to practice when he has met the necessary legal requirements, excepting that of being present at a quarterly meeting of the Board of Medical Examiners.

It was directed that this matter be referred to the Board of Medical Examiners with a copy of letter above referred to, together with a transcript of the comments in discussion; also, that the Legislative Committee similarly receive such data.

Flagstaff Community Hospital vs. Blue Cross

Doctor Young reported in detail the controversy following determination of the Flagstaff Community Hospital to withdraw from Blue Cross participation. It appears there is now a possibility of mutual understanding and solution of the problem.

American Registry of Doctors' Nurses

Doctor Smith presented for the Board's information a notice that "American Registry of Doctors' Nurses has consented to a Federal Trade Commission order that it stop misrepresenting itself as a nonprofit organization. Noting that

the A.R.D.N. sells 'memberships . . . certificates, pins, emblems, and other insignia . . . to persons employed in doctors' offices,' the F.T.C. said the company 'creates the false impression (that it) is a nonprofit organization of professional nurses when it is purely and simply a money-making operation conducted solely to sell these items.'

"NOTE: On May 30, 1959 a news release was received stating that 'The American Association of Doctors' Nurses, a new nonprofit Association, has just been incorporated and has assumed the membership of the old American Registry of Doctors' Nurses.' Offices continue to be located in Washington, D.C."

Board of Directors Meetings

For the information of the Board, Doctor Beaton presented an anticipated schedule of five (5) meetings of the Board following determination and creation of an Executive Committee as follows:

1. Meeting in October (to clear up summer business)
2. Meeting in December (to anticipate Legislation)
3. Meeting in February (to consider current Legislation matters)
4. Meeting in April (Annual Meeting)
5. Meeting in June (Required for Committee appointments)

Meeting adjourned at 4:20 P.M.

Lorel A. Stapley, M.D.
Secretary

ARIZONA AWARDS

The instigation of rendering an award to the best scientific paper submitted for representation to The Arizona Medical Association Meeting, was highly successful. The award this year was given to Dr. Charles A. Stephens, Jr., who read an excellent paper on Anti-coagulation.

A second award has been established for the 1961 Meeting. This award will be given to those who present the best scientific exhibit.

We realize that there is great medical talent in the State of Arizona, hence, the awards were established in hopes that it would stimulate the talented to share their works with the other members of our society. It is our vibrant hope that many of you will get busy now, so that your papers and exhibit will be recorded in due time to be processed for our 1961 meeting.

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PIMA COUNTY REPRESENTATIVE
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725 East Broadway MAin 3-0583

Medical Society of the United States and Mexico

Fifth Annual Meeting

NOVEMBER 8-12, 1960

Recent reports from Dr. Chavez in Guadalajara indicate that the scientific portion of the program for the next meeting of the Medical Society of the United States and Mexico is taking shape. On this side of the border we have been entrusted with arranging the American portion of the scientific program. So far we have the following committments on a fairly permanent basis:

Dr. Harry E. Thompson — The Diagnosis and Treatment of Systemic Lupus.

Dr. Henry P. Limbacher — Poisonous Stings in Southwestern United States.

Dr. Fred Landeen — A new Technique for Caudal Anesthesia.

Dr. John E. Scarff — Principles and Practices in the Treatment of Hydrocephalus.

Dr. Walter Stevenson — Differential Diagnosis of the Red Eye.

In addition to the above, in all likelihood there will be a contribution from Dr. Maxwell Lockie, famous American rheumatologist, and by Dr. Lester Dragstedt.

We are anxious to secure at least one or two papers from the Phoenix area.

Dr. Chavez further informs us that if approximately 150 persons will plan to travel from the United States via Nogales by rail that a special train can be secured. The same is true of the trip between Guadalajara and Mazatlan and also return trip from there.

An announcement of this meeting is appearing in seven national journals, and a note has also been published in the Roundup, the official organ of the Maricopa County Medical Society.

In all likelihood, very soon an announcement will be forthcoming from Mexico to the entire membership containing more details as to both the program and entertainment schedule, accommodations, etc., following which a questionnaire will be mailed from our American headquarters to the American membership in order to secure an estimate of the number of members and family and guests who plan to attend so that the logistics of accommodations and entertainment can be better organized.

Juan E. Fonseca, M.D.



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Dextro-amphetamine hydrochloride	15 mg.,
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THERAPEUTIC EFFECT LASTING 6 TO 10 HOURS
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CLINICALLY ECONOMICAL TO THE PATIENT

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Before the development of *Timed* AMO*dex* (Testagar) the usual dose of Dextro-amphetamine hydrochloride, for the control of appetite, was one 5 mg. tablet two or three times a day. The usual dose of Amobarbital ranged from 20 to 40 mg., two or three times a day. On such a dosage regimen the absorption of the drugs, after ingestion, takes place quite rapidly. The therapeutic activity occurs within one-half to one hour. When the therapeutic peak is reached, a gradual decline takes place. At this point, the patient should receive another dose of medication . . . the cycle is then repeated.

Patients frequently fail to follow the physician's instructions. They take medication at irregular intervals. When this occurs with drugs such as dextro-amphetamine sulfate, phosphate or hydrochloride, excitation may result. A balanced combination of Dextro-amphetamine hydrochloride, **the preferred salt,** plus a balanced daily dose of Amobarbital will give the expected therapeutic results *without* excitation.

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SAMPLES AND LITERATURE UPON REQUEST

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Editorial

"THE CRISIS IN AMERICAN MEDICINE"

"How, for example, can the patient benefit from the specialization of medicine and still be treated as a whole human being? How can specialists themselves best collaborate as healers and scientists? Can the inflationary spiral in health costs be checked? What are the most fruitful methods and areas for research and how shall they be financed? What new moral issues are posed by the achievements of modern medicine in prolonging life? Can we safeguard future generations against the stresses and hazards of our technology and civilization?

"In trying to grapple with these disturbing questions, Americans are burdened with one unique handicap: Ours is the only western nation in which the leaders of the medical profession – with few exceptions – are unwilling to come to grips with these hard realities.

"Occasionally, to be sure, a lonely maverick speaks up. Seldom, however, does he enjoy sufficient eminence in his own profession to command a respectful hearing from his colleagues. Medicine's men of distinction are notably reticent on public issues and their organizations – both national and local – are massive lobbies for the status quo rather than open forums for the discussion of new ideas.

"One of the rare variants from this pattern is Dr. Norton S. Brown, who served as president of the New York County Medical Society in 1959. 'We are in the midst of a mammoth and complicated social change,' he said in his inaug-

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication – Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

ural address. 'Medicine used to be a private concession operated by doctors for doctors. It has now become a public utility operated by doctors in cooperation with other segments of our society. In many areas we have a bad name and are synonymous with obstructionists. . . . We have been bemused by slogans and think they solve our problems instead of using our diagnostic objectivity as physicians. We need to develop a working philosophy based on reason, not on inaccurate cliches loaded with emotion. We must begin with a serious evaluation of ourselves and our place in a rapidly changing society.'

"The aloofness of the medical profession from these social issues is central to the crisis facing American medicine which is sketched in the . . . (*Harper's* — October issue). Indeed, the unwillingness or inability of many distinguished doctors to engage in forthright discussion of the socio-economic aspects of their profession created a major editorial dilemma in preparing this supplement. Our contributors are, in the main, informed laymen with specialized knowledge of the fields they discuss. They have highlighted some of the chief trouble areas and proposed remedies. In each instance the help of doctors is needed to effect a cure. How then can they be persuaded to join in the effort?

"As a beginning, the problem of the nation's health must be lifted out of the atmosphere of partisan controversy in which it has bogged down for the past thirty years. This might be accomplished by a presidentially-appointed group with the stature of a British Royal Commission. Its members must be men and women whose wisdom and objectivity are above question. Preferably they should have no prior connection with or commitment to medical matters, but should seek the counsel of experts and evaluate it with complete detachment. They would shun the limelight in the course of their study. And they would be required to do much more than compile still another catalogue of familiar statistics. The facts have long since been assembled. The reports are printed and awaiting the discerning and dispassionate reader. The goal of the commission — should one be created — should be a blueprint of our medical future, a program encompassing all aspects of the problem as a basis for rational debate and decisive action.

"It is too late for mere delaying tactics. American doctors may find themselves helpless bystanders in a course of events they have done nothing to shape unless they are willing to accept the true dimension of the nation's health needs and dissatisfactions. This supplement is an attempt to lay some portions of the problem squarely on the table."

The above is a rough draft of part of the foreword to the supplement of the October issue of *Harper's Magazine*. It will present problems we must face and solve. As encouraged in accompanying editorials of this and past issues, the medical profession must enter into the socio-economic changes that are taking place in the United States. If medical care to the people of America can be improved, and it can be, we must enter into and guide those changes.

This special supplement of *Harper's Hagazine* in October on "The Crisis in American Medicine" will have the following make-up:

FOREWORD: An appeal for an unbiased reappraisal of the nation's health problems and a fresh, non-partisan effort to solve them.

THE POLITICS OF MEDICINE

Edward T. Chase

The anatomy of power — in county medical societies, the AMA, medical schools, and hospital hierarchies — and its impact on the cost and quality of our medical care.

THE DECLINE OF THE HEALING ART

Selig Greenberg

What can be done about the conflict between the patient's need to get well and the doctor's need to be paid.

DO YOU WANT A FAMILY DOCTOR?

David D. Rutstein, M.D.
Chairman, Dept. of Preventive Medicine
Harvard Medical School

Proposal for drastic changes in medical education — to produce the quantity and kind of physicians we need.

TOMORROW'S HOSPITALS

Martin Cherkasky, M.D.
Director of Montefiore Hospital
and Maya Pines

Blueprint of the coming community health centers whose job will include supervising home care, nursing homes, and the treatment of most mental illness.

THE REAL BOTTLENECK IN RESEARCH

John Russell
President, Markle Foundation

Why spending millions of dollars will not solve — and may actually delay — the solution of major riddles still baffling medical science.

DEATH BE GOOD

Joseph Fletcher
Professor of Ethics and Moral Theology
Episcopal Theological School, Cambridge

The moral issue posed by senility and hopeless illness — and a bold answer to a profoundly disturbing — and growing — problem.

BEYOND TRADITIONAL MEDICINE

Rene J. Dubos
Member and Professor,
Rockefeller Institute

A challenge to doctors to take the lead in changing the factors in our environment which threaten our health and that of future generations.

A DOCTOR PRESCRIBES FOR HIS PROFESSION

Lindsay E. Beaton, M.D.
President, Arizona Medical Association, Inc.

Excerpts from Dr. Beaton's inaugural address as President of the Arizona Medical Association.

We encourage that you read and analyze this special supplement. It will be released nationally September 29. Your comment is invited.

THE PATIENTS WILL LOSE

The observations of Dr. John Green, based upon his recent first hand study of governmental medicine in Europe, (See letter to Editor) emphasize the stand which medicine should take toward socialized, state, governmental or bureaucratic medicine. Namely, "it is the patient who loses," not the doctor, because in a socialized system the doctor's relative social-economic position remains about the same. In our true altruistic approach we should make this point clear to all those who control their political fate — the voters. We must find a way to educate the public as to our purpose as based on historical facts.

It is not paradoxical that those doctors who are foremost in the battles against state-medicine are those who are not in the higher brackets of medical-income. The doctors who are active in their efforts to stop socialized medicine are those who are sincere and devout in their desires to support a system of medicine which will best serve their patients — the public. These same doctors contribute their time from leisure pursuits, time from their work which could be otherwise remunerative and do so without thought of personal gain. These are the doctors who not only serve their patients with honest consideration but also fulfill their duties as citizens in their church and civic organizations.

It is ironical that the image of the present-day doctor is that of a mercenary individual, and therefore, all statements and actions of medicine are branded as purely selfish.

The President of our Arizona Medical Association has admonished us well (see *Arizona Medicine* June 1960). He stated, "The rational exception to bureaucratic power over medicine — by government, labor, or business — is for intellectual and professional reasons, not economic ones. Such control would put the care of the ill into the hands of managers and administrators who are indifferent and actually hostile to science." It may be further stated that these third-party-medical-men, besides being hostile to science, will be non-sympathetic to the existence of the souls of men with indifference to man's delicate and intricate sociologic, pyschologic and physiologic structure.

Dr. Green is correct — it will be the patients who lose and not the doctors. These doctors, who, without proper identification, are actually fighting the battle for humanity rather than for selfish gain, or as stated by Dr. Beaton, "because it would squeeze our pocketbooks."

Our desire to assure the future generations the best health care may be stymied, to a great extent, by the political philosophies of those who seek election this next fall. We will have to align ourselves with those whose proposal is the lesser of the two evils, and continue our efforts to prevent a catastrophe.

L.B.S.

PENNSYLVANIA MEDICAL SOCIETY PROGRAM

The Pennsylvania Medical Society has under study a program for improved medical service. This is pioneering by a group of physicians in the 10th Councilor District of Pennsylvania, five counties in the area of Pittsburgh. It is an effort

to provide good medical care under the free enterprise auspices of medical societies.

"The Program seeks to insure the provision of high quality health care at reasonable costs through acceptance of a group responsibility by physicians acting through their medical societies, and by co-operation among the health care service partners — physicians, hospitals, prepayment agencies, health insurance carriers, and the medical societies — to serve consumers more efficiently. A system of evaluation and review procedures, guided by established standards for the quality, cost and utilization of health care, provides the controls against misuse and the stimulus for progressive improvement in performance."

The members of The Arizona Medical Association should watch this pilot program closely. It would appear likely that barring unforeseen difficulties it will be adopted and put into practice by the 12,000 physicians of the Pennsylvania Medical Society.

The plan will assist the patients in being financially prepared for their health care needs by the use of appropriate prepayment plans. Representatives of the medical societies must be willing to consult with consumer groups and assist in adapting health care plans to their needs. The Program establishes safeguards to protect the public and the insurance carrier against abuse in care, wasteful use of facilities, or the compromise of high quality standards. The plan will offer an equitable basis for physicians and hospitals to co-operate with third parties in the proper establishing and serving of health care plans. "In return, such agencies are asked to respect medical ethics, to use facilities which serve the whole community, and to provide opportunity for voluntary relationships between patients and physicians."

The Program is designed for application on a regional basis and not as a state-wide plan.

The initiating group in a regional operation is the Medical Care Coordinating Committee. This includes representatives of the county medical societies of that area and provides access to the Grievance Committees of those societies.

Secondly, the Censors Committee supervises the functioning of Credentials Committees, Tissue Committees and Utilization Committees within participating hospitals.

The Publication, "Guide to the Establishment and Functioning of a Medical Staff Utilization Committee" (available through the Pittsburgh office of the Pennsylvania Medical Society), assists medical staffs on utilization review.

The Utilization Committees serve as a safeguard against unnecessary or excessive hospitalization.

The functions of the Tissue Committees and Credentials Committees are obvious.

Claims Review Committees "evaluate complaints submitted by prepayment agencies or insurance carriers, or complaints by physicians relating to prepaid or insured health care plans; and make advisory recommendations on questions regarding the need for or quality of care, reasonableness of fees, and proper utilization. Cases submitted for review by prepayment or insurance agencies are considered by the review committee panel without knowledge of the names of the physician or patient involved. Either party may appeal the findings of the review committee and appropriate cases are referred to the county society grievance procedure. Complaints from patients regarding physicians are channeled to the county society grievance committee."

The Qualifications Committee "has the purpose of recording the qualifications of participating physicians and of indicating which physicians have been found by their peers to have specialized qualifications. The approach being explored is the preparation of clinical profiles on the physicians."

The Program establishes a code of prepayment-insurance protection principles which form the basis of recommended types of coverage in health care plans.

The Program also provides for the development of a study of relative values to permit the establishment of fairly consistent, reasonable fees for the services of physicians in meeting prepaid or insured health care needs.

The Blue Cross Review Committee is composed of two members from the medical staff of each participating hospital. Two groups of cases are reviewed: a. those whose hospitalization is unnecessary; b. those suspected of overstay at hospitals. These cases are referred to the Utilization Committee of the hospital involved. If there is a claim denial, final evaluation is to be done by the area Blue Cross Advisory Committee.

Health Insurance Review Committee "was established for the purpose of reviewing and advising on questionable claims submitted by the commercial health insurance carriers for this area. Questioned claims are first discussed by the insurance company with the attending physician involved, and if this fails to produce a settlement, are then submitted for review."

Should ARMA investigate this plan? Further information is available through the executive offices of the Pennsylvania Medical Society, 230 State Street, Harrisburg, Pa.

The procedure of reviewing complaints from prepayment and insurance agencies, or from physicians, places the evaluation of the quality, cost and utilization of medical care in the hands of physicians. This is where the responsibility belongs.

Desire it or not, there is a gradual socialization of the U.S. This can be prevented in medicine by governing ourselves. We must prevent the abuses of "the few" by self discipline.

DWN

QUINCY DOCTORS FIGHT COLD WAR OF CLASSROOMS

Doctors in Quincy, Illinois, are deeply concerned about a vital problem facing our nation today in its race for survival against international communism — the challenge of Soviet education. They are concerned because nation-wide statistics reveal that nearly half of our brightest high school students do not go to college — which is potential leadership material lost in the educational battle that may determine the world struggle between communism and the free world. They are concerned because too few of our profession as well as other citizen groups are taking any action to meet this challenge at the local level.

Over the past four years the doctors of Quincy through the Adams County (Ill.) Medical Society and the Swanberg Medical Foundation have joined with other civic organizations to encourage academic achievement within their own community, and make the public cognizant of the fact that such achievement is a national resource that should not be wasted.

To date the record has been an enviable one under the Quincy Major Learning Program, established in 1956 and "dedicated to a college education for every talented high school graduate of Quincy and Adams County." Achievements have been many and have gradually expanded over the years to include cash certificate awards to top students of local high school graduating classes and sponsorship of a newly organized non-profit educational program, the Society for Academic Achievement.

This is a program encouraged by our past president, Dr. D. W. Melick. What have we done to further this effort?

It is not enough that we encourage a medical school and establish a Student Loan Fund. We must coordinate our efforts with those of the other specialties so that there is "a college education for every talented high school graduate of Arizona."

DWN

ANTI-RADIATION PILL

We sincerely hope that the comments of Colonel James Hartgering are more than wishful thinking when he hopes that "a usable anti-radiation pill to protect humans from effects of radioactive materials would be available within two years."

To those of us not trained in the space age, it has been difficult to conceive a medication which prevents damage by a source of energy. We hope it is more than the results reported some years ago at Treasure Island that alcohol in adequate doses would protect mice from irradiation effects. Unfortunately, this level of alcohol was so high as to be toxic in humans.

NON-PARTICIPATION

What must the medical profession do to convince the thinking citizens of the true reasoning behind our opposition to the third party control of medicine, especially by government?

As previously stated, it will be the recipients of state medicine who will suffer rather than the doctors — we have been unsuccessful in our attempt to reach the general public and must admit that those who desire a radical change in the precepts of our constitutional government have been able to oversell their wares. Their goals have been almost accomplished even though their methods would not pass the basic principles of ethical advertising and salesmanship as laid down by our Better Business Bureau.

The Association of American Physicians and Surgeons has proposed an answer to our dilem-

ma. They propose "Non-Participation". The A.A.P.S. is not a reactionary, negative organization to perpetuate the mercenaries and socially disinterested doctors. It was founded to safeguard that social system which has accomplished the best medical care in the world and to assure the progress of an order which will guarantee deliverance of the best medical care to all.

Non-Participation may be interpreted as repulsive denial of medical care. This is *not the true meaning* of non-participation. Non-Participation does not propose that we would strike and not render service to the sick and afflicted; it relates only to the system of medical practice under which we as physicians would render our care. Non-participation would direct that we continue to render care to the infirm but that we would not do it by a system or scheme which would eventually and inevitably lead to the destruction of the overall quality of medical care. The A.A.P.S. 1957 publication of "Let's Stop Feeding the Crocodile" is reproduced in the "reprints" section of this issue. Reflection on what has been accomplished during the last few years will disclose how history repeats itself. This bite by bite consumption of the medical body by the crocodile (government) will soon devour the brain and flesh, and the soul of man will be extinct.

If we must use the "shocking position" of non-participation to awaken those whom we choose to befriend then there will be no alternative.

LBS

GOVERNMENT AND PRIVATE MEDICINE

During the past two months my wife and I have had the opportunity to see government and private medicine at first hand in Western Europe. These experiences were mainly in highly developed scientific centers of Rome, Pisa, Padua, Zurich, Paris, Brussels, Antwerp, London, and Edinburgh which I visited in connection with the development of the Barrow Neurological Institute of St. Joseph's Hospital in Phoenix.

In these systems of government medicine, it is the patient who loses what he needs, far more than the medical profession. He loses (1) personal patient-doctor relationships, (2) personal services that he is used to in our private hospitals, (3) control of who will operate on him (indeed, the British press are up in arms about allegations that two-thirds of the surgery in Britain is being done by trainees), (4) easy access to the hospital (a patient with a brain tumor is placed on a waiting list, and a hernia repair may be delayed for over a year).

Although the general practitioner and specialist alike lose a certain degree of freedom, the relative economic status of the physician in the community has not been particularly changed. Physicians have little chance for the development of new facilities for the benefit of their patients because of lack of funds for such purposes and bureaucratic control of these funds. The governments find the costs so staggering and competition for funds so great that relatively little is left for the care of patients, let alone for the advancement of medical facilities.

New hospital construction has been virtually non-existent in Britain since the passage of the National Health Service Act of 1948.

The lessons of history show that the members of the medical profession have always led the fight for reforms which would benefit the health of individuals and communities. We must now join with others to stop cold those groups in both political parties who wish to sell this free land of ours an expensive and empty social system! It is equally important to extend our private insurance coverage of patients under a free enterprise system.

The county, state, and Veterans' Hospitals in our country do a good job for their intended purpose, but can you imagine our private patients wanting to be lumped into a chain of such governmental institutions? This is what has happened in Western Europe where the governments have assumed the bills for medical care. I contend that if the people of our nation were aware of how misleading this propaganda about the benefits of Federal medical care is such schemes would be shunned like the plague.

Let us alert our friends and patients that they will eventually lose private medical care if the government takes over one segment of the population after the other through its Social Security System or any other bureaucratic device! The big loser in any such system is the individual patient, and so he should choose his candidates for public office carefully and instruct them regarding what kind of a social system he wishes to live in — free or regimented.

John R. Green, M.D.
550 West Thomas Road
Phoenix, Arizona

In Memoriam

George L. Dixon, M.D.
1895 — 1960

Dr. George Lane Dixon, orthopedic surgeon and a Tucsonian since 1934, died March 7, 1960.

Dr. Dixon was born in Burlington, Iowa, July 13, 1895. He attended the public schools in Burlington, received his liberal arts degree from the University of Iowa and graduated from the medical school there in 1922.

His internship and residencies were served in Detroit, Mich., on the staffs of Harper Hospital, Herman Keefer Hospital and Children's Free Hospital.

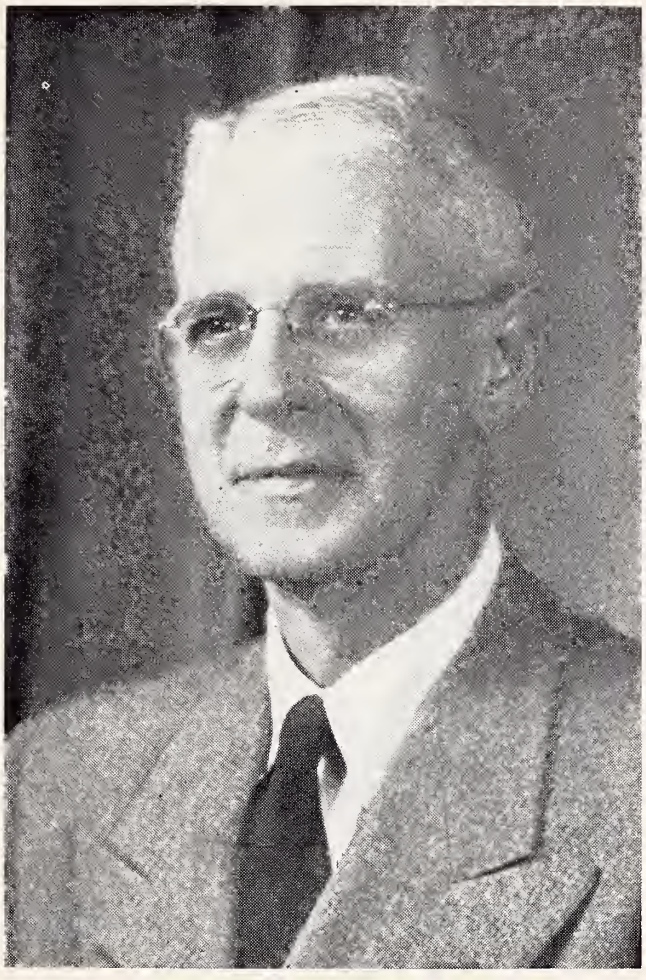
From 1934 Dr. Dixon spent all but two years in Tucson. Between the years 1942 to 1944 he was a staff member of the Los Angeles General Hospital, and also during this time he was an instructor in orthopedic surgery at the University of Southern California. He then returned to Tucson.

Dr. Dixon was a member of the vestry of St. Phillip's-in-the-Hills Church, the Old Pueblo Club and a charter member of the Tucson Country Club.

He served as chairman of the Medical Advisory Board of the Pima County Chapter of Infantile Paralysis, Advisory Board of the Cerebral Palsy Assn. of Tucson, 1950-55, and was a staff member of the Crippled Children's Division of the State of Arizona.

Dr. Dixon also organized the orthopedic department in the Veterans Administration Hospital, Tucson.

He was a member of the Iowa State Medical Society, Des Moines (Iowa) County Medical Society; president of the Pima County Medical Society in 1945; and a member of the Arizona Medical Association, Western Orthopedic Soci-



GEORGE LANE DIXON, M.D.

ety, American Medical Association, and the American Academy of Orthopedic Surgery. He was a fellow of the American College of Surgeons and a diplomate of the American Board of Orthopedic Surgery.

Dr. Dixon's scientific writings appeared in the *Journal of the American Medical Association* in 1937 and in the *Physiotherapy Review* in 1944.

His widow, Ellen Dixon, resides in their Catalina Foothills Estates home, Route 5, Box 77, Tucson. There are one daughter, Mrs. John (Sally) Wiener of Scarsdale, N. Y., one son, Capt. George L. Dixon, Jr., of the U. S. Army Medical Corps, and six grandchildren.

RESOLUTION

WHEREAS, the death of George Lane Dixon, M.D., in his 65th year, marks the end of a distinguished career in the profession of medicine, in no sense does it end his influence for good in the community where he served so faithfully and so productively, and

WHEREAS, in particular, his colleagues in medicine keenly feel the loss of a gentle and genial companion who freely gave guidance and counsel throughout the many years he served the Pima County Medical Society in various offices of responsibility, including the Presidency, and who in latter years gave an unforgettable example of personal courage in adversity, BE IT THEREFORE

RESOLVED: That the Pima County Medical Society inscribe in its permanent records its recognition of enduring gratitude to an honored friend and fellow physician, and convey to Doctor Dixon's family an expression of deep sympathy in their bereavement.

Topics of Current Medical Intrest

Humor and Pathos of Physicians Practice in a Mexican Mining Camp

By

Dr. W. W. Watkins

Sidelights on the substrata of society of any race are always of interest, probably because of an instinctive sympathy for the "under-dog." The Mexican peon is an interesting sociological study. To a physician who, in any community sees the inner life of its people more closely than any one else can, these people present many an insight into their individual and racial character, to describe which a few incidents may be cited, amusing, pathetic and perhaps instructive.

Metcalf, Graham county, furnishes the ore supply for the Arizona and Shannon Copper companies, the third and fifth companies respectively, in copper production in this territory. It was here the writer went on a hurry call as mine physician for the Shannon Copper company, remaining there fourteen months. The camp has about 4500 population, of which number fully 4200 are typical Mexican peons. The smelters, general offices and hospitals of these two companies are located at Clifton, while each company maintains a medical department, in charge of a physician, at its Metcalf mines. This camp is 1000 feet higher than Clifton and six miles distant. The two camps are connected by a railroad running up through a narrow gorge, whose precipitous, copper-stained jagged cliffs rise 1000 feet on either side. It may be of interest to know that this six miles was once traversed by an 18-inch track, and that this baby-gauge road was the first railroad built in Arizona. It was constructed in the early 70s, the material being packed on burros and the engine hauled by oxen from Vera Cruz, Mex., a distance of 750 miles. Portions of this old road-bed remain and the little pioneer engine is still at Clifton. (1907).

At Metcalf the mines are all near the summits of the mountains, the ore being delivered to track level by inclined railways and cable cars run by gravity, the loader car hauling the empty one up. The Shannon incline is said to be the steepest of its kind in the world, having a depression of 52 degrees, and to stand at the foot and see its top one must look almost directly up. To ride up or down it on the ore cars is a dangerous pastime, and it was, by this route the writer first reached the summit of Shannon hill. These cars have a capacity of ten tons and are emptied by means of a trap door into large bins, from which the ore is delivered to railroad hoppers. That it is not without danger this hair-raising experience of the old master mechanic at the mine will testify. He rode down, as was his custom, sitting on the ore within the

EDITORS NOTE: The late Dr. W. W. Watkins was a raconteur extraordinaire. This account was originally published in the Arizona Gazette, Phoenix, October 2, 1907, 16:1:7 (JWK)

car. On reaching the bottom, the laborer there did not see him and quickly opened the trap door, and the old man shot through the bottom of the car, down a 20-foot chute into the bin along with eight tons of ore, but, wonderful to say, with no more serious injury than multiple bruises and a severe shock.

The mine employs about 850 men, and these, with their families, are the charge of the mine physician. Of this number only about 50 speak English, the others being imported Mexican labor. These Mexicans live almost entirely in Metcalf camp, which one can see like a panoramic map 1100 feet below the hill. In the afternoon the outgoing physician and myself went down into the camp and I was introduced to twenty-three patients as "El doctor nuevo del Cerro Prieto," or "The new doctor of Black Mountain," as Shannon hill was known. Of these patients only one spoke English, and I could not speak a word of Spanish. The doctor returned to Clifton the same afternoon, leaving me shiveringly afraid that some of the newly acquired patients might be taken suddenly ill and call me in; truly a novel sensation for a physician!

The number of patients (twenty-three) was much in my mind as I endeavored, the next day, to make a newly-acquired vocabulary of a dozen Spanish words to cover all portions of the human anatomy, the ills to which it is heir and the directions to accompany the medicine. The drugs themselves and the treatment, fortunately, it was not necessary to translate, as, like all physicians, I considered this no part of the patient's privilege to know. The office was well stocked with drugs, but at the outset therapeutics were necessarily very limited and empirical, especially with office patients. When an interpreter was not handy, diagnosis was made by deduction from signs and expressions. Knowing the word for pain (dolor), if the applicant for relief accompanied this with expressive motions in the region of his abdomen, the diagnosis and treatment were plain — indigestion from a too abundant consumption of frijoles; ergo, calomel and castor oil. Did he reach behind, rub his back and grunt, a "parche" (plaster) both satisfied and relieved him. A thump on the chest and a cough indicated an expectorant. For more serious troubles an interpreter could be secured, but under the exigencies of the situation, the language came rapidly. In handling a half-learned language, amusing errors often happened — one I remember which barely escaped being serious. In giving instructions for the diet of a senorita just convalescent from typhoid, I attempted to direct how to boil an egg (huevo) soft; place in boiling water, let it remain three minutes, remove and feed to the patient. The mother of the girl was much surprised at the directions, but assented. On returning to the hill, the reason for her surprise suddenly flashed on me; I had used the word for cheese (queso) in speaking of an egg. Hastening back, I found her following instructions literally, boiling a piece of cheese to feed the patient. This family, in which occurred three typhoids, always obeyed instructions to the letter, which was contrary to the rule.

All the Americans in camp were eager and willing to assist the physician and some of them had no mean idea of their ability. While down in the camp one day, a hurry call came to return immediately. A man was lying in the office with a compound fracture of the leg, and one or two Americans were anxiously endeavoring to relieve his suffering; to this end one of them had fed him three headache tablets and wanted to know if he should continue this treatment!

Another occasion, on returning from Metcalf, the mining engineer of the company was found standing over a six-foot Mexican, adjuring him to be quiet; that there was nothing the matter with him. He had made an examination and said there was nothing worse than a few bruises, but thought better to wait for me before making the man walk home. On re-examination, both collar bones and eight ribs were found fractured!

In contradiction of the popular belief regarding Mexican peons, they are not essentially different from a similar class of other races. Their greatest fault is ignorance, and to this can be traced all their vices. They showed an appreciation of kindness, which was surprising to one who had heard only evil of them. They are generous, intensely sympathetic, and, as a rule, courteous. They are extremely superstitious, credulous and easily panic-stricken. The following incidents will show some of these characteristics:

One night a hurry call was brought to come to the relief of a senora who was "paralysed and dying." It was very dark and a drizzling rain was falling; a ride down the steep trail

on a mule under these circumstances to find the patient sitting up in bed frantically waiving her hands and complaining that she could not sleep was very trying on a man's temper. This experience was repeated a month or two later when an anxious husband appeared in the office and breathlessly informed me that his wife had been suddenly paralysed. She, too, had chosen the darkest night of the month and the husband strenously objected to the loss of time necessary to saddle a horse. When we reached the shanty this patient was also surrounded by sympathetic friends who listened to her complaints enforced by vigorous gesticulations of her paralysed limbs. To effectually relieve her distress and make a warm friend of the family, required only the generous administration of six sugar pills. A few cases like this soon taught me to take description of symptoms from these people "cum grano salis."

The great majority of Mexicans living in any sort of hovel they could procure and the unsanitary condition of the camp, their personal uncleanliness and the extreme laxity in carrying out directions, worked great hardship on them, especially on the small children. The Mexican peons show a staggering refutation of any idea of race suicide, the number of children in any family usually corresponding closely to the number of years married, and every child owns a dog so that 'twas often remarked that the best way to take the census of a Mexican camp is to count the dogs.

Their disregard for directions was often annoying. There was a patient with typhoid fever, a boy of ten years. He was very ill and taking precaution to secure an interpreter; full directions were given, among them was that he was to be kept absolutely quiet in bed and have nothing to eat or drink but milk, broth and water. To all his mother assented readily, but on returning in the afternoon, the boy was sitting on the edge of the bed eagerly devouring a tortilla six inches in diameter, with a temperature of 104 and pulse 150! He got well.

Another time a woman wanted treatment for her baby who was suffering with dysentery, which was very prevalent in that camp. She stated that he was 8 months old, took food from the breast, and ate absolutely nothing else. Going in to see the infant, there he was, unwashed, naked, sitting in a soap box and with four half-grown incisors was biting chunks out of a raw "spud" and swallowing them. The mother promised to modify the diet but could see no reason for it.

At births the writer often acted as nurse, bathing and dressing the newborn babe and incidentally adding to the theory of pediatrics a knowledge of a Mexican baby's wardrobe, the intricacies of which are mystifying. With a towel across the knees to form an artifical lap I would take from the mother garment after garment and endeavor to solve the problem it contained until the baby and I were both lost — he in a multiplicity of garments; I in a maze of bewilderment.

As is usual with mining companies, each man was charged a monthly hospital fee for which he received free medical, surgical and hospital attention, as well as life insurance. Naturally, the Mexicans often felt it a Christian duty to obtain value received for their money. If they could not manage to stand under falling gravel and sustain a trifling injury, they would regularly show up at the office to secure medicine for some ailment — often fictitious. An hombre pranced into the office one day with the complaint that he had a violent pain under his belt buckle. After an inquiry or two I gave him a remedy. Glancing out of the window as he left, he was seen to throw it away. When he came back in some days later with the same complaint, I mixed the vilest concoction possible and told him to drink it; he protested that he wanted something to take when he reached home, but I insisted and he was game. He swallowed the mixture; said "gracias" and went out laughing. They enjoy a joke immensely; can be easily jollied but do not readily forgive an injury, becoming surly and resentful when roughly spoken to.

An instance of their superstition: There was a cave-in which killed four miners; these were laid out in a room attached to the office where they remained about half the night. On the other side of the office is the temporary hospital room with beds for men awaiting transfer to Clifton. Some days later a man was brought in with a crushed foot. After dressing the foot I wanted him to sleep in one of these beds till the morning. He flatly refused to stay even with a companion — whom he rightly suspicioned might take fright and leave him — in the house "with the dead men." So he spent the night sitting out in the open on a pile of lumber.

But the incidents were not always humorous. Accidents occurred which tried the souls of men and brought home to us the truth which we sometimes try to deny, that a man is a man whatever be his station in life. That in the presence of death we may often see under the cover of ignorance an innate heroism, which we might honor. One morning about 10 o'clock there was a cave-in which caught a man — a Mexican mucker — beneath a column of loose dirt forty feet in height. He lived, for his voice could be heard muffled and pleading for the rescuers to hurry. Every experienced miner and every shift boss, with the foreman and superintendent, rallied to the rescue. The only way to reach him was by driving a tiny tunnel only eighteen inches square into the base of the column of loose muck toward the man, whose situation could be only roughly guessed at. No tools could be used. After it was started a man would lie prone within the tunnel, carefully removing the dirt handful by handful, replacing it by small blocks of wood. This little tunnel was five feet long before they reached the man's feet, and then the rescuer worked along over the buried body, encouraging the man, who still talked as if from a tomb, during the long hours. Every minute they ran the imminent risk of bringing down the entire column of dirt on rescuer and injured alike. Twice it did partially slip, but the men outside would hear it in time and, grasping the rescuer's feet, haul him to safety — and then the work would have to be done over again. At five o'clock the following morning, after nineteen hours of exhausting, heart-breaking work, the man was taken out alive, but the shock was too great and in the reaction from it he died six hours later.

A last instance of heroic acceptance of fate which is not often excelled: An "amigo" of the writer's who had been on the accident list on three occasions, fell down a 40-foot shaft and was brought up with a broken back. He was sent to the hospital, where it soon became apparent that he would not recover. When told this, no man could look unmoved into his startled eyes as the realization of imminent death sank into his consciousness. But he only turned his face away and said: "Bien dios lo quiera" ("It is well: the Lord wills it"). To the writer this stolid, ignorant Mexican peon, with his calm acceptance of fate, realized that highest heroism so beautifully pictured by Bryant of a man meeting death as if he "wrapped the draperies of his couch about him and lay him down to pleasant dreams."

TUBERCULOSIS IN PIMA COUNTY — 1959

In 1959, through the joint efforts of the TB & Health Association of Pima County and the Board of Visitors of the St. Lukes in the Desert Hospital, located in Tucson, Arizona, funds were provided to employ a physician to act as Tuberculosis Consultant in the Pima County Health Department. This support was to be continued for a limited period of time with the anticipation that the need for such a consultant would be demonstrated, and that the County would then provide for this support.

As part of this work in Tuberculosis, it was felt that an analysis of the local situation should be undertaken. Ever since vital statistics for tuberculosis have been kept for Arizona, Arizona's yearly reports for Newly Reported Case Rates and Death Rates have been about two or three times the National level. It is interesting to note however, that the decline in the Death Rate for Arizona and the Nation have been almost identical in proportion. Arizona has decreased from a rate of 291 in 1931 to 20.8 in 1957, a decrease of 93%. For the National rate there was a decrease from 68 in 1931 to 6.9 in 1957, a decrease of 90%. We can see that Arizona's Death Rate has decreased at the same rate as the National figures, but with the difference in end result is due to the fact that Arizona started with a much higher level.

It was the feeling of the Tuberculosis Consultant, influenced by over twenty years observation and practice of medicine in the community, that there was not an unduly great incidence of newly *diagnosed* cases of tuberculosis in the community to account for the continued high figures for the Newly *Reported* Case rates in Arizona. An analysis of the Newly Reported Cases, Group "A" (active or probably active) for Pima County, Arizona for 1959 was therefore done. Our situation in the Southwest is rather unique in that many persons with active tuberculosis are attracted here by our warm climate. Their numbers are not as great as in the early 1900's but they still come here. To attempt to determine how these persons coming here with known active disease alter our local

statistics, the Newly Reported Active Cases for 1959 were divided into those cases diagnosed in Pima County residents and those who were known to have been diagnosed elsewhere and then came to Pima County and were reported as being here in 1959. The same was done for Tuberculosis Deaths and the Table shows the results.

The left hand column shows the vital statistics for the community and the Rates are comparable to those for the Nation. To these figures, however, must be added the morbidity and mortality statistics for Reservation Indians (population 500) who are under the supervision of the USPH but reside in Pima County area. The right hand columns show the additional load on our local statistics brought about by those who come here with active disease. They were broken down into two classifications to see how the presence of a large Veterans Hospital in the community influenced the attraction of known active cases to Pima County. (Only the Veterans who came out of the hospital to live in the community were counted, not those who came here for hospitalization only.)

In summary, reading the Table from left to right, the Newly Reported Cases in Pima County residents is increased 30% by the addition of Reports of Reservation Indians living within the area of Pima County. This sub-total is again increased by 50% by Reports of persons coming here with active disease. In reviewing the statistics for Tuberculosis Deaths, the same situation holds true. The number of deaths in County Residents who were diagnosed here is increased 30% by the addition of deaths in Reservation Indians. This sub-total is again increased by over 100% by deaths in persons who came to Pima County after being diagnosed as active tuberculosis and died of Tuberculosis here in 1959.

This analysis, I believe, explains in some measure, why the vital statistics for Tuberculosis are so high in Pima County and in Arizona. It also implies that Pima County will not be able to reach the National level as long as this additional load of cases continues to come here from other states.

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NEWLY REPORTED CASES OF ACTIVE TUBERCULOSIS
PIMA COUNTY — 1959
GROUP "A"

	Newly Diagnosed and Reported Cases of Active TBC in Pima County Residents		Sub-Total	Active TBC Cases, Newly Reported in 1959 as being in Pima County — Diagnosed as Active TBC Prior to Coming to Pima County		Sub-Total	Final Total
	County Residents	Reservation Indians		Came Here on Their Own Means	Came Through Local Veterans Hospital		
Number of Cases	74	22	96	27	23	50	146
Rate per 100,000 population	27.9		35.5				54.1

DEATHS IN PIMA COUNTY — 1959 — TUBERCULOSIS CAUSE OF DEATH

	TBC Diagnosed in Pima Co. Residents — Died TBC — 1959		Sub-Total	TBC Diagnosed Elsewhere — Prior to Coming to Pima County — Died of TBC Here 1959		Sub-Total	Final Total
	County Residents	Reservation Indians		Attended by Other Than VAH	Attended by Veterans Hospital		
Number of Deaths	18	7	25	9	20	29	54
Rate — Deaths per 100,000 population	6.8	140	9.3				20

MEDICAL COURT CASES

by Howard Newcomb Morse
Counsellor at Law of the Supreme Court of the United States of America

Gerber vs. Day
District Court of Appeal of California
6 P. 2d 535

Charles J. Gerber went to Dr. Emory C. Day for treatment after sustaining an injury. When the wound was being dressed the physician instructed the patient to procure some tetanus antitoxin serum and bring it back immediately, and for that purpose gave him a note to the druggist. The patient took the prescription but failed to have it filled. The physician did not know where the patient lived.

On the following day the physician, upon being called to the house of the patient, discovered that the prescription had not been filled. The physician sent the prescription out to be filled and administered the serum immediately. However, the administration was too late, and the patient died from a tetanus infection.

The widow of the patient, Jessie, brought an action in the Superior Court of Orange County, California, against the physician for alleged malpractice. She claimed that the death of the patient was caused by the failure of the physician to administer the serum in time to prevent an infection of tetanus. The court dismissed the case, and the widow appealed.

The District Court of Appeal of California affirmed the decision of the court below. The District Court of Appeal held that the physician was not liable for malpractice where the patient failed to have the prescription filled and return to the physician for further treatment as directed. The Court declared: "There is nothing in the evidence to show any dereliction of duty on the part of the defendant physician and surgeon."

Govan vs. McCord
Supreme Court of Oklahoma
11 P. 2d 141

Miss Jessie McCord complained of ill health. It was the opinion of her family physician, Dr. Bird, and his consulting physician, Dr. Day, that the patient's health would in all probability be improved by the removal of her tonsils. Dr. T. P. Govan was engaged, on their recommendation, to perform the operation.

Dr. Govan, in performing the operation, removed the uvula and both the posterior and anterior pillars on the right side of the throat of the patient. He asserted that it was necessary to do so because of the diseased condition of the throat. The injury to the patient's throat was permanent and she never would be able to swallow naturally.

The patient filed an action in the District Court of Osage County, Oklahoma, against Dr. Govan to recover damages caused by alleged negligence on his part. Several physicians testified in behalf of Dr. Govan that, if the patient's throat was diseased as contended by Dr. Govan, it was necessary, in performing the operation, to remove the uvula and pillars, but that, if the patient's throat was normal at the time of the operation, in their opinion, it was bad surgery to remove these parts. None of these physicians examined the patient's throat prior to the operation. The physicians who testified in behalf of the patient, and who examined her throat immediately prior to the operation, all testified that the throat was at that time normal. A jury returned a verdict in the amount of $4,000 for the patient and the court entered judgment accordingly. Dr. Govan appealed.

The Supreme Court of Oklahoma sustained the decision of the lower court. The Supreme Court stated: "The evidence is sufficient to sustain the finding of the jury that defendant was guilty of negligence in performing the operation."

Reinhold vs. Spencer
Supreme Court of Idaho
26 P. 2d 796

Dr. H. D. Spencer undertook to treat Henry F. Reinhold, who was suffering with acute pneumonia. In the course of treatment it became necessary to perform an operation known as "tapping the lungs." The physician, assisted by a nurse, performed the operation, using novocaine by means of a hypodermic syringe to deaden the pain.

A small opening was made in the pleural cavity of the patient to permit drainage of pus accumulated therein. The usual treatment was followed by inserting a tube into the cavity through the small opening to provide drainage. After the operation the wound healed normally.

An x-ray examination, conducted at the Veterans' Hospital, later disclosed a hypodermic needle lodged within the thoracic cavity of the patient. An effort by surgeons at the Veterans'

Hospital to remove the needle was abandoned as being too dangerous to the patient's life. As a result of the needle being left in the patient's body he endured great pain and suffering.

The patient instituted an action in the District Court of Bonneville County, Idaho, against the physician to recover damages for malpractice. A jury returned a verdict for the patient and the court entered judgment accordingly. The physician appealed.

The Supreme Court of Idaho upheld the decision of the trial court. The Supreme Court declared: ". . . while the operation in and of itself was successfully performed, negligence consisted, not in the performance of the operation, but in knowingly, negligently, and carelessly leaving the needle in respondent's body and in failing to remove the same therefrom."

BITE OF THE KISSING BUG(1)

Kissing bugs, also known as cone-nosed bugs, assassin bugs, walpai tigers, or bellows bugs, can inflict an extremely painful bite in humans. They are similar in appearance to the common squash and box elder bugs. They are usually ½ inch to 1 inch or more in length and have an elongated cone-shaped head. They have piercing, sucking mouthparts similar to those of the mosquito which may be folded beneath the head when not in use.

Normally, kissing bugs live in the nests of rodents such as the pack rat and intermittently feed on their hosts. Although approximately a dozen or more species of the insect occur in Arizona, *Triatoma protracta*, *Triatoma uhleri*, and *Triatoma longipes* seem to be most commonly encountered. At least two species in southern Arizona, according to Wehrle(2), have a "dispersal" flight in May and June; during this period they will be attracted to light and will enter houses. Intrusion into homes tends to be more common in the open desert or the edge of town than in the center of a city. The occurrence of these insects may continue throughout the summer but is most intense during May and June.

Houses that are continually bothered with kissing bugs are very likely located near the dens of pack rats or other small animals which harbor the insects. The method of choice for the elimination of these insect pests consists of eradication of the rodent hosts. Once they have invaded a house, the kissing bugs will hide in cracks and crevices, under rugs, and in other inaccessible places. However, they may be effectively destroyed with common household insecticides such as chlordane.

A kissing bug may alight or crawl onto the face, neck, or arm of an individual and inflect a very painful venomous bite. The intensity of the response to the injected venom varies according to the susceptibility of the victim. Most individuals develop a hard welt ½ inch to 3 inches in diameter at the site of the bite. According to Herms(3), some patients may develop swelling of the entire affected member or even experience systemic symptoms such as nausea, tachycardia, tachypnea, and general urticaria.

Treatment for a bite inflicted by a kissing bug is symptomatic in nature. Wehrle(2) suggests the local application of ammonia or hot solutions of magnesium sulfate. Herms(3) has also recommended bathing the bite with magnesium sulfate solution. On the other hand, Dodge(4) suggests the use of antihistaminic drugs. Because of the probable role of endogenously released histamine in the toxic reaction(5), it would appear that epinephrine may be beneficial in severe cases of kissing bug bite.

Some victims of kissing bug bites in Arizona have been concerned with the possibility of contracting Chagas' disease from these insects. This disease occurs in South America and southern Mexico; and although the same or a micro-organism very similar to the trypansome *(T. cruzi)* which causes Chagas' disease has been found in kissing bugs and small animals in Arizona, a search of the medical literature failed to reveal any case records of *T. cruzi* infection in the United States.

AMMONIUM DIHYDROGEN PHOSPHATE AND AMMONIUM SULPHATE

The Arizona Poisoning Control Information Center recently received numerous inquiries regarding the toxicity of ammonium dihydrogen phosphate, $(NH_4)H_2PO_4$, and ammonium sulfate, $(NH_4)_2SO_4$, two chemicals commonly employed as plant nutrients. The "ammonium" portion of the chemical nomenclature of these compounds has misled some individuals to consider them as basic compounds. Since these substances are salts of a weak base and a strong acid, they

may be expected, upon hydrolysis, to form acidic solutions. Indeed, a saturated aqueous solution of ammonium dihydrogen phosphate (1 gram/2.5 ml) or ammonium sulfate (1 gram/1.3 ml) would have a pH of approximately 4. Because of their relatively mild acidity, these compounds would not be expected to produce a caustic effect when ingested.

REFERENCES

1. Grateful acknowledgment is made to the Department of Entomology, College of Agriculture, The University of Arizona, Tucson, for information presented in this report on kissing bugs.
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3. Herms, W. B., Medical Entomology, 4th Ed., The Macmillan Co., New York, 1950.
4. Dodge, N. N., "Poisonous Dwellers of the Desert," Southwestern Monuments Association, 1952.
5. Edwards, J. S., "Insect Assassins," Scientific American, 202:72, June, 1960.

STATISTICS OF 83 POISONING CASES IN ARIZONA DURING MAY, 1960

AGE:

71.1% involved under 5 year age group	(59)
7.2% involved 6 to 15 year age group	(6)
8.4% involved 16 to 30 year age group	(7)
8.4% involved 31 to 45 year age group	(7)
4.9% involved over 45 year age group	(4)

NATURE OF INCIDENT:

86.8% accidental	(72)
13.2% intentional	(11)

TIME OF DAY:

30.1% occurred between 6 a.m. and noon	(25)
25.3% occurred between noon and 6 p.m.	(21)
20.5% occurred between 6 p.m. and midnight	(17)
1.2% occurred between midnight and 6 a.m.	(1)
22.9% were not reported	(19)

OUTCOME:

98.8% recovery	(82)
1.2% fatal	(1)

CAUSATIVE AGENTS:

Internal Medicines	**Number**	**Percent**
Aspirin	18	21.6
Other Analgesics	1	1.2
Barbiturates	6	7.2
Antihistamines	2	2.4
Laxatives	2	2.4
Cough Medicine	2	2.4
Tranquilizers	2	2.4
Others	9	10.8
Subtotal	42	50.4
External Medicines		
Liniment	0	0.0
Antiseptics	1	1.2
Others	3	3.7
Subtotal	4	4.9
Household Preparations		
Soaps, Detergents, etc.	0	0.0
Disinfectants	0	0.0
Bleach	3	3.7
Lye, corrosives, drain cleaners	2	2.4
Furniture and floor polish	0	0.0
Subtotal	5	6.1
Petroleum Distillates		
Kerosene	3	3.7
Gasoline	2	2.4
Others	7	8.4
Subtotal	12	14.5
Cosmetics	0	0.0
Pesticides		
Insecticides	7	8.4
Rodenticides	1	1.2
Others	0	0.0
Subtotal	8	9.6
Paints, Varnishes, Solvents, etc.	2	2.4
Plants (Castor Beans)	4	4.9
Miscellaneous	5	6.0
Unspecified	1	1.2
TOTAL	83	100.0

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ACCIDENT-SICKNESS DISABILITY INSURANCE PROGRAMS

The purpose of such plans, offered to members by national medical organizations, is to replace income lost because of inability to practice, or to provide additional income needed during such periods of disability.

The premium dollar's protection for the members is illustrated by a comparison below of annual premium charges for an indemnity of $100.00 per week, life-time accident benefits and sickness benefits as noted — normally five years.

These are all good plans, and the charges are substantially — up to 50 per cent — less than analogous individual coverages. Further, incidental benefits available in some programs have not been listed due to limitations of space.

Organization	Under 40	40.49	50-59	60.69	Term of Sickness Benefit	Accidental Death	Partial Disability Accident Only
American College of Physicians	$191.00	$191.00	$191.00	$191.00	5 years	$ 5,000.00	½—4 weeks
American College of Surgeons	160.00	195.00	210.00	210.00	5 years (2½ after 65)	$ 5,000.00	½—4 weeks
American Academy of Pediatrics	150.00	175.00	228.50	228.50	7 years	$ 5,000.00	½—13 weeks
American College of Ob. and Gyn.	162.00	212.00	212.00	212.00	5 years	$12,000.00	½—6 weeks
American Academy of General Practice	183.00	224.00	224.00	224.00	5 years	$ 6,000.00	½—6 weeks
American College of Radiology	118.00	152.00	179.00	213.00	5 years	$ 1,000.00	½—6 weeks
American College of Chest Physicians	234.80	234.80	234.80	234.80	5 years	$ 8,000.00	½—6 weeks
‡American Society of Anesthesiologists	234.80	234.80	234.80	234.80	5 years	$12,000.00	½—6 weeks
‡American Academy of O and O	232.80	232.80	232.80	232.80	5 years	$ 6,000.00	½—6 weeks
*American Academy of Derm. & Syph.	216.00	216.00	216.00	216.00	5 years	$ 3,000.00	½—7½ weeks
‡American College of Allergists	194.80	194.80	194.80	194.80	2 years	$ 6,000.00	½—6 weeks
Southern Medical Association	146.00	178.00	230.00	230.00	5 years (2 yrs. after 60)	$ 1,000.00	None
‡Industrial Medical Association	175.00	175.00	175.00	175.00	2 years (5 yr. accident)	$ 1,000.00	None
‡American Association of Railway Surgeons	181.00	181.00	181.00	181.00	5 years	$ 1,000.00	½—6 weeks
American Urological Association	128.00	148.00	175.00	215.00	2 years	$ 5,000.00	None

*Weekly indemnity of $92.30, rather than $100.00.

‡$10,000.00 dread disease rider.

(Source: The American College of Radiology Bulletin, Vol. 16, N. 5)

AIR POLLUTION IN ARIZONA?

IV. Legislative Aspects of the Problem

by Robert D. Smith, Jr., M.A.

Science Instructor: Scottsdale High School

When the populace is troubled by faulty air and auras, commonly called "smog," the first reflection is: ". . . something should be done: there ought to be a law!" But, prior to taking legal action, a few points should be considered. First, do we need a new law? Perhaps we have some unknown, non-enforced ordinances that could be used right now. Second, the new law, if needed, should be one that will do the job effectively and efficiently and not be unnecessarily or unfairly restrictive.

Air, it should be recalled, is like water or land, i.e., it is a natural resource and should be used as such. One of the prime objectives of pollution control is regulating the amount of contaminants that are placed into the air while at the same time, allowing the atmosphere to be used to its fullest extent for all other purposes.

The responsibility of any pollution laws must rest on either the federal, state, county or municipal bodies or a sub-division of one of these entities. The major emphasis thus far has been on the local municipal basis, yet in some states, the legislature must act to give the city in question the legal authority to enact the re-

quired ordinances. Here in Phoenix, as in many other cities, air pollution enforcement can come under the jurisdiction of smoke control ordinances which already exist. Smoke control ordinances are better understood and much easier to pass city council action than say, legislative action with diverse laws covering all aspects of air pollution.

In most cities at present, smoke control is limited to just the city limits: the encompassing county usually has not recognized the new and growing problem. In some recorded cases, both city and county have duplication of efforts and conflicts in procedures and methods. It is obvious we cannot have clean air over a city without some type of restrictions on the sources of pollution whether it be within the cities or counties.

Then too, in order to have any complete air pollution program within the area, a competent staff is necessary, both in number and specialized training to maintain a constant check and control on the offenders. Air pollution can be solved only by the pooling of technical skills and mutual cooperation of all parties concerned. Surely any law of this nature will miss its mark if it does not provide for a cooperative attitude between the individuals operating the plants and the enforcement personnel.

Inasmuch as most public issues become subject to political forces, air pollution abatement must not become a partisan matter.

The cost of a working program will be borne by permits, fees, taxes, and/or amortization of some fund set aside for this purpose. The range of average costs in some communities for enforcement of air pollution laws is from $70 to $1700 per square mile. As can be seen, air pollution control is mostly a matter of economics. A community or county can have as much clean air as it wishes depending on the amount of enforcement and money it has to spend on controls.

Thus far, one state, Oregon, has passed an air pollution law. The Oregon law sets up an additional division within their State Board of Health to be known as the Air Pollution Authority of



Fig. 1. Looking south from Phoenix Towers. Note that the pollute cloud is about 300-400 ft. thick or just under the inversion layer. Photo taken about 8:00 A.M., Mid-January, 1960.

the State of Oregon. This board consists of five members: the State Health Officer and four appointed members who serve staggered terms of office. These members receive no salary, but they do receive compensation for expenses.

This board is responsible for the prevention and control of all sources of air pollution within the state and the enforcement of the law as set down by the legislature. Offenders of the law are brought before the board for a hearing, and are subject to the penalties set down by the board. The penalties range from a strict warning on the first offense to a fine and/or jail sentences for a repeated offender.



Fig. 2. Looking SSW from Phoenix Towers on a February morning. Note the Sierra Estrella Mountains are almost totally obscured. (All photos by the author.)

As of this writing, there have been no federal enactments on the air pollution problem. The automobile exhaust problem will probably have to be a combined federal and local program of control and should be initiated on both levels without delay. The regulation or prohibition of diesel operated vehicles is a critical problem that cannot be delayed. The nuisance of their "black clouds" has been protested for many years and further delay in some type of control is inexcusable.

If a new plant or company were to locate in a community with strict anti-pollution laws already in effect, they would probably have to submit a list of facts concerning their operation to an Air Pollution Board. In this report or registration, the following information would be desirable, if not mandatory:

a. Location of outlets, stacks, or chimneys
b. Size and height of the outlets
c. Rate of emission from outlet
d. Composition of the effluent
e. Hours of continued operation

The Board would have to allow for some exceptions, such as accidental discharges, non-continous operation, etc. Other exemptions could be granted as the need arose.

When the Board first received the necessary data from the new company, it could then begin to compute the rate and direction of the fallout over the community. This is readily done by skilled meteorologists. From this, the probable

sources of community complaints ean be seen beforehand and measures taken with the new company to reduee the fallout.

Preliminary registration of data about a new firm provides the necessary means to prevent a problem and also anticipate possible complaints before the firm sets up in business. This allows their engineers to alter construction plans prior to actual building. In special instances, the Air Pollution Board might even suggest a suitable building site to avoid contamination over a neighboring community.

Unfortunately most legislation on the problem of air pollution has been centered in the municipalities. Most offenders are usually found in the county or surrounding areas of the cities. However, we must not overlook another group of offenders who drive cars, burn trash in the incinerators at the wrong time of day, and those who have ineffieient heating systems. It is very probable that we will be subjeeted to stricter and more restrictive laws in the future; whether they come from federal, state, or local governments remains to be seen. The public, industry, and government are all fairly well eonvineed that there is a need for some type of pollution abatement and some degree of improvement in our atmosphere should be forthcoming.

To answer the leading statement, "Air Pollution in Arizona?" Yes. The reader is asked to examine the enclosed photos of downtown Phoenix taken last January. Note the obscuration of the South Mountains by the pollution.

Each photo was taken on separate days and on each, it was impossible to see from one side of the valley to the other.

NEW MEXICO PLANS MEDICAL SCHOOL, OTHER STATES STUDY NEEDS*

Plans for a "regional" school of basic medical sciences at the University of New Mexico topped recent news of Western states' increased activity designed to meet coming shortages of physicians in the region.

Arizona, California, Hawaii, Idaho, and Montana also are taking specific new steps to examine their medical education needs.

A $1,082,300 grant from the W. K. Kellogg Foundation to the University of New Mexico will assist the University over a five-year period to establish a sehool covering the first two years of the medical curriculum. About half of the grant will be spent to meet in part the planning and operating eosts for the school's first five years, and the other half will be allocated toward construction of the medical school facility on the Albuquerque campus.

*From Higher Education in the West (Volume 6, No. 2, June, 1960), a publication of the Western Interstate Commission for Higher Education.

THE MEDICAL STUDENT, HIS FAMILY AND HIS COSTS OF MEDICAL EDUCATION

The Datagrams, Vol. 1, No. 6, March, 1960, which discussed medical student finances indicated that the average cost to the student of 4 years of medical school, as experieneed by the 1959 graduating class, was $11,642 or $2,911 per year. Recent findings in the same study indieate that the individual student and his family are paying the largest portion of these costs with only minor assistanee from outside agencies. Gifts and loans from parents, relatives and/or in-laws and the student's or his wife's earnings provide 82% or all finaneial resourees available to the student. Ageneies outside the family, such as the medical school, local banks, federal and state governments, provide the remaining 18% of financial resources.

The data on various amounts of financial help given by the student's own parents or relatives (including wife and in-laws) through gifts and/or loans are summarized in Figure 1.

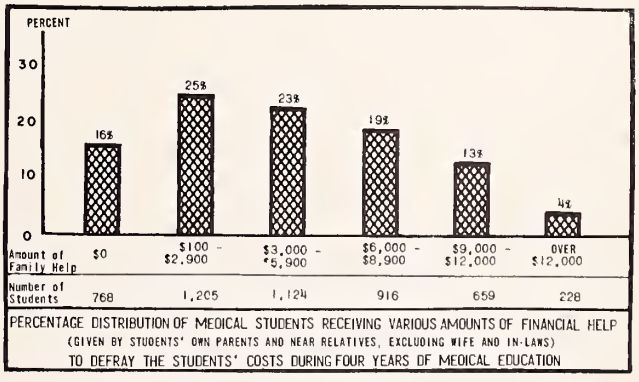


FIGURE I

Special attention needs to be given to the facts that 16% of the 1959 graduating class of medical students received no help from their families while 36% received $6000 or more.

One of the basic factors which allows the medical students' families to give them financial help is the level of parental income. The data on the income of the parents of the 1959 graduating class members is summarized in Figure

II below. These data are compared with published census data on the U. S. average of white urban families in 1957.

The data on student earnings applied to the there is a much smaller proportion of medical students from lower income group families and, conversely, a much larger proportion of medical students from families with income of $10,000 or more than the proportion of such families in the U. S. population. An integration of the data in Figures I and II unequivocally demonstrates that lower income families simply cannot provide the amounts of money needed by the student to pay for the costs of his medical education.

One method which students use to substitute for or supplement financial aid from their families is to earn money to pay their bills by work during summer vacation and the academic year.

The data in Figure II indicate clearly that costs of medical education by the students in the 1959 graduating class are summarized in Figure III.

The data in the tables above clearly indicate that there is a need for a positive program of financial assistance to medical students. First, if we are to reach our goal of increasing the number of physicians to meet the nation's health needs, we must draw upon a broader socio-economic base within the population. To do this, financial assistance is necessary. Second, current medical students in order to pay their bills must frequently engage in work which has nothing to do with medical education. Increased financial assistance would allow the elimination of the unproductive work which is currently being carried on at the expense of the fullest realization of the intended educational experience.

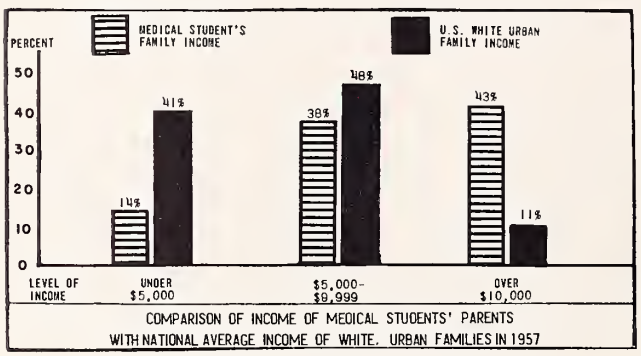


FIGURE II

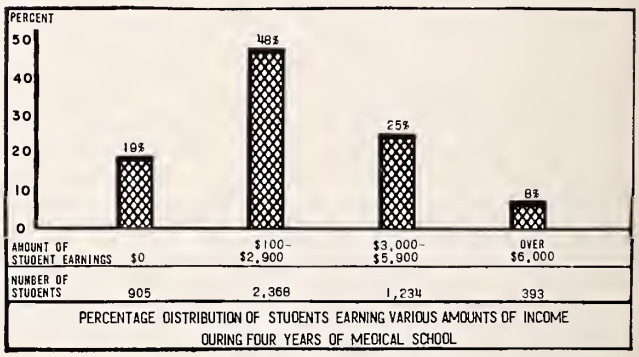


FIGURE III

Funds for basic research in the medical sciences have riven sharply in the past few years, according to the current issue of *Patterns of Disease.*

As an index of the growing emphasis on basic research, the rapid increase in grants made by the National Science Foundation, the only Federal agency committed solely to basic research. In 1958, the Foundation awarded $10,-881,130 in grants for biological and medical research, compared with only $762,675 in 1952.

The nation's academic institutions are the centers of basic research. Most of the grant-type support they receive is directed toward basic research in the physical and life sciences. In two separate surveys, one showed that larger colleges and universities spent two thirds of their research funds on basic research and another showed that medical schools devoted almost four fifths to basic research.

Reprints

"Let's Stop Feeding The Crocodile"*

"Each appeaser hopes that if he feeds the crocodile enough, the crocodile will eat him last" . . . Mr. Winston Churchill uttered these words of wisdom when he was stirring his people to defend their homeland. . . . He found his greatest opposition to be some British leaders who were advocating a weak-kneed course of appeasement, rather than an immediate determined fight for survival. . . . History now records that Mr. Churchill overcame his appeasing opposition. . . . If he had failed, England would have failed, too.

The position of the American medical profession today is analogous to the position of England in the early, dark days of World War II. . . . Some medical leaders would postpone the day of reckoning and feed the "crocodile" a few additional choice morsels of medical freedom — usually from the cupboard of an issue which hasn't directly touched their medical lives. . . . For example: Some physicians in cities and communities which are not affected by the United Mine Workers' Welfare Fund are not unduly concerned over the rapidly diminishing medical freedom of physicians who practice in mining areas.

We believe the crocodile has been fed long enough. . . . We believe time is running out for the medical appeasers and that they are only a few short steps removed from becoming the crocodile's last meal. . . . The crocodile has been well fed over the years on the medical profession's lack of all-out aggressive opposition to the government's program of providing medical care to veterans with non-service connected disabilities. . . . This anemic position has permitted this program to grow and become accepted to the extent that statements are now being made in some high places that if a man or woman puts on a military uniform, he has a "right" to receive government paid medical and hospital care — whether or not he was disabled in or out of the uniform, in or out of his tour of service.

Medical appeasers served the crocodile with a deluxe banquet when they reversed their course and supported the creation of a Department of Health, Education and Welfare. . . . Those who went along with President Eisenhower and Mrs. Hobby on this plan to glorify America's breeding ground for Socialism by elevating it to Cabinet status, probably thought their surrender would gain the undying and never-changing gratitude of political powers to the extent the "Department of Socialism" would never again turn against the medical profession. . . . But appeasement and subordination of principles to expediency never achieve anything except dishonor. . . . Appeasers are used by those who seek their help until the deed is accomplished — then, they are discredited and dis-

*Reprinted from Association of American Physicians and Surgeons News Letter, December, 1957, Vol. 11, No. 12.

respected. . . . The Department of Socialism "rewarded" the appeasers with disability freeze, disability insurance and the still unpassed plan for health reinsurance.

Excellent cuisine was supplied the crocodile when Medicare was enacted into law. . . . This scheme of socialistic medicine for military dependents has completed one year of operation and has cost the taxpayers approximately $76 million and cut off a large chunk of medical freedom.

During the past several years, a new group of appeasers have indicated their desire to be the last ones to be eaten by the crocodile, by their inconsistent insistence that doctors be compulsorily included in socialistic Social Security. . . . As we have pointed out many times, if a majority of physicians voluntarily accept inclusion in communistic-inspired compulsory Social Security, they will have lost their strongest argument against compulsory socialistic medicine. . . . If compulsory socialistic Social Security is good enough for physicians, then patients and the government will be on sound ground when they contend that compulsory socialistic medical care is "good enough" for patients.

Another group of appeasers is now spewing forth its unimaginative and visionless philosophy of "getting together" — they mean appeasing — with John L. Lewis' UMW Welfare Fund. . . . Although officials of the UMW have denied free choice of physicians by designating only a small number of "approved" physicians to deliver medical services to beneficiaries, these appeasers give semi-professional approval to this step to destroy quality medical care and private practice when they urge "getting together." . . . There should be enough evidence by now to convince any physician that there is never any satisfactory conclusion through appeasement of labor bosses. . . . It is the nature of their responsibility never to be satisfied. . . . They must continue to seek more and more in order to keep their memberships reasonably satisfied and to perpetuate their dynasties.

If physicians knuckle under to the labor bosses, the crocodile will be fed one of his most tasty meals to date. . . . And, these appeasers will be next up for the crocodile's dessert. . . . Ethical physicians cannot — or should not — compromise with those labor bosses who seek to reduce physicians to a slave state and destroy quality medical care by denial of free choice. . . . Unless physicians are ready to throw in the sponge, revise downward the code of medical ethics, reduce standards for delivery of medical care, and become docile servants of the labor bosses, they must invoke non-participation. . . . Loss of pride in their well-being is no excuse for physicians to shirk their first responsibility of protecting their patients from bad medical care. . . . The only absolute safeguard for their patients is non-cooperation with schemes of medical care that are inimical to the patient's interest. . . . It is the only honorable way for honorable physicians. . . . Yet, there are some who already are whispering "non-participation won't work because physicians won't stick together." . . . This defeatist attitude adds to the ammunition of those appeasers who seek to "get back in" (the UMW program).

We listed several examples of the successful employment of non-participation in the AAPS Information Bulletin of November 22, 1957. . . . We made a recent check on three of the examples, San Francisco, the Union of South Africa, and British Columbia and non-participation is still effective after a number of years. . . . In British Columbia they did socialize the hospitals but they have never proclaimed the Act which was passed in 1936 to socialize physicians. . . . We are repeating Dr. J. H. Harvey Pirie's (Union of South Africa) statement regarding non-participation for the benefit of our defeatist brethren. . . . It is this: "Make up your minds what you want and/or don't want; organize; stick together."

We believe physicians will stick together when the chips are down. . . . They are "down" now. . . . When quality medical care is threatened with destruction; when patients are faced with assembly-line care, manned by physicians who will be paid on an incentive-lacking salary basis; when the personal responsibility of the physician to his patient is threatened by elimination, we believe physicians will resolve their differences, temporarily submerge their rugged individualisms and unite together to save their patients and themselves from the degradation of enslaving regimentation.

AAPS member, Dr. Allen T. Stewart of Lubbock, Texas, presents a good case for AAPS non-participation. . . . In his letter, dated December 5, 1957, he states: "The philosophy of your approach to the problem of government

medicine is the only rational or feasible one advanced to date. . . . The grandiose schemes of socialized medicine all assume that physicians will cooperate. . . . They cannot function without doctors. . . . If we refuse to comply, the entire scheme crumbles. . . . Millions have been squandered in an effort to promote better public relations for medicine. . . . Our position will command more respect and be more effective if we stand up and oppose those who would destroy American medicine. . . . Without us, what plan can succeed? . . . More power to you."

Let's not feed the crocodile any longer. . . . He has grown fat on big bites of medical freedom. . . . Let's starve him by convincing our appeasing colleagues that continued appeasement can result only in a professional and economic debacle. . . . Let's close ranks and refuse participation in any unethical scheme in order to protect our patients and regain public respect for the medical profession. . . . Our decision not to participate in bad schemes and our unalterable support of this decision will be the most effective public relations ever practiced by the medical profession. . . . Our already suffering prestige will be lessened with the handful of labor bosses and political leftwingers. . . . On the other hand, the action of non-participation in behalf of patients will gain the respect and further cement the friendships of millions and millions of Americans who depend on and expect their individual physicians to protect them from schemes of inferior medical care. . . . Let's emulate Winston Churchill and inspire our colleagues to wage a successful battle for Freedom.

Louis S. Wegryn, M.D.
President

HEALTH MANPOWER FOR THE FUTURE

An interesting survey by two staff members of the United States Public Health Service* points up possible shortages of professional health personnel in the near future due to the rapidly increasing population in this country. The conclusions of these authors are summarized as follows:

"The future supply of physicians is not expected to keep up with the greatly accelerated rate of growth of the population. The predictions take into account estimates of the graduates of medical schools in the United States, new licentiates graduated from Canadian and other foreign medical schools, and deaths among those in the profession.

"The number of graduates of U. S. medical schools currently predicted for existing and planned schools is expected to increase from about 6,900 in 1959 to 7,400 in 1965. The number of physicians (M.D.) in the latter year will be about 260,000, or 132.8 per 100,000 population which is about the present ratio.

"If the number of graduates of U. S. medical schools were to remain at about 7,400 per year between 1965 and 1975, while the foreign-educated physicians entering practice in this country leveled off at 750 per year, the number of physicians (M.D.) in 1975 would be increased to 296,000. The ratio, however, will decrease to 125.9 physicians per 100,000 persons. If the annual number of U. S. graduates were to be increased sufficiently to maintain the present physician-population ratio in 1975, the 1975 graduating class would have to be increased to approximately 10,360, in order to have 311,500 physicians (M.D.) in that year.

"The number of osteopathic physicians is about 14,000, with 460 graduates in 1959. If the annual graduating class is increased to about 525, by 1975 the supply of physicians (D.O.) may reach 16,700. The ratio to population will have declined, however, from 8.0 to 7.1 doctors per 100,000 population.

"Increases in dentist supply have been lagging behind the population growth despite large gains in the numbers being graduated. The annual number of graduates is expected to increase from the present 3,100 to nearly 3,500 by 1965. Unless there are further increases, the number of dentists in 1975 will be about 118,000, or 50 per 100,000 population. To regain the 1958 ratio of 56 dentists per 100,000 population requires 133,000 dentists in 1975 and an additional 2,700 graduates that year above the number currently planned.

"The supply of professional nurses has more than kept pace with the population growth. With 467,000 nurses now active, the ratio is 267 per 100,000 persons. The annual number of graduates is expected to increase from 30,400 in 1958 to 37,000 in 1965 and continue upward. On this basis, the ratio is expected to be 284 active professional nurses per 100,000 population in 1970."

*Stewart, W. H., M.D., and Pennell, M. Y., M.Sc.: Health Manpower, 1930-75. Reprinted from Public Health Reports, Vol. 75, No. 3, March 1960, by permission.

THE "OPEN-NEGATIVE" PROBLEM

Editor's Note:

The subject of "Open-Negative" cavities is a bit premature. To me, it is mainly drug (anti-TB) effect, and we don't know what will happen after a period of years after stopping the drugs. They may not remain "open-negative." We need longer observation period.

WGU

Clear cut definitions of "open-negative," "relapse" and "bacteriologic remission" are recommended by the Committee on Therapy of the American Trudeau Society as a means of dispelling the present confusion surrounding this problem.

The "open-negative" problem is largely a product of the chemotherapy era. Formerly the persistence of open cavity on the roentgenograms of a tuberculosis patient was almost invariably associated with the ability to recover tubercle bacilli from his secretions. Today, however, the majority of patients receiving a first course of effective chemotherapy for cavitary tuberculosis pass through a phase of bacteriologic remission while one or more cavities are still open. In some, this is followed by cavity filling or closure leading to an inactive classification. In others, the bacteriologic remission and persistent open lesion coexist for months or even years. This group of cases constitutes the "open-negative" problem.

The problem is that, after eight years of experience, agreement on the treatment and prognosis of these patients is lacking. Much of the conflict appears to be the result of the different ways in which various reporters use the terms "open-negative" and "relapse."

For the purposes of this report an "open" lesion is a hole or space in an area of the lung previously involved by tuberculosis, containing air and usually surrounded by a wall of sufficient density to be recognizable as such morphologically or roentgenographically. Not included are: (1) areas of increased radiolucency of segmental or lobar extent without a definite wall; and (2) former cavities, from which all air is absent; and (3) bullae, cysts, and areas of cystic or saccular bronchial dilatation when these can be differentiated with reasonable certainty from residual tuberculous cavities — a distinction not always possible.

The duration of bacteriologic remission required for inclusion in the "open-negative" category must be arbitrary. It is recommended that tubercle bacilli shall have been absent from the sputum and gastric contents examined at monthly intervals for at least six months. It is also recommended that the term "open-negative" be supplemented by indicating the duration of bacteriologic remission: thus "open-negative 6 months" or "open-negative 18 months."

INCIDENCE AND DIAGNOSIS

It has been estimated that approximately 90 per cent of patients who receive a first course of effective chemotherapy for cavitary pulmonary tuberculosis will achieve bacteriologic remission (reversal of infectiousness, sputum conversion) during the first eight months of treatment. More than half of such patients, however, will still have roentgenographic evidence of cavity if examined carefully.

The diagnosis of an open lesion on chest roentegenograms or planigrams preoperatively is usually followed by its discovery in the resected specimen. In general, an open lesion of some kind will be found in the resected specimen in 75 to 85 per cent of cases when one is reasonably suspected after careful examination of serial roentgenograms. The more equivocal the roentgenogram, the poorer this correlation becomes.

Although much has been made of the advanced state of healing in some resected "open-negative" lesions, this is a relative thing which is usually compared with the morphologic appearance of cavities resected without drug coverage or obtained at autopsy. Even today with effective chemotherapy, the majority of resected "open-negative" lesions show residual caseous foci and granulation tissue irregularly distributed in and along the cleanly sloughed, fibrotic cavity wall.

It has been shown that the longer the period of bacteriologic remission perior to resection in surgically treated cases, the more advanced the healing process appears and the more difficult it is to recover viable bacilli. A similar correlation between the duration of bacteriologic remission and the morphology and tissue bacteriology in unresected "open-negative" cases is often assumed, but specific proof is missing.

RELAPSE

If one wishes to measure the prognostic significance of the "open-negative" state by the incidence of relapse, one must arbitrarily define

relapse. Simultaneous roentgenographic worsening and positive bacteriologic findings are universally accepted as evidence of relapse. It is proposed that recovery of tubercle bacilli by sputum culture or smear or gastric culture in a patient classified as "open-negative" be considered a relapse. While it might seem desirable to require more than a single positive bacteriologic finding for relapse, the tendency to introduce new drugs or other measures after even a single positive culture, especially when unsuspected drug resistance is noted, is very common and a second positive bacteriologic finding might thereby be prevented or masked, thus lowering the relapse incidence artificially.

Unfavorable roentgenographic changes with smears and cultures repeatedly negative for tubercle bacilli may be due to nontuberculous pulmonary diseases. Such changes, therefore, should rarely, if at all, be counted in tabulating tuberculosis relapse incidence in the "open-negative" group. The physicians may elect quite properly to treat such a patient as a case of tuberculous relapse in the absence of bacteriologic confirmation, but for satistical purposes such cases should be classified separately. The same applies to patients who show signs of clinical worsening such as fever, weight loss, increased cough, expectoration, or even hemoptysis without roentgenographic change or bacteriologic confirmation of tuberculous etiology. The role of indefinite prolongation of drug therapy in preventing relapse needs investigation. The earlier a relapse occurs, the more likely it is to occur while drugs are still being given; the later the relapse occurs, the more likely it is to follow cessation of chemotherapy.

IN SUMMARY

The problem of persistent open cavity with bacteriologic remission of greater or less duration is a phenomenon peculiar to the era of effective chemotherapy for tuberculosis. The roentgenographic findings fairly represent the morphologic findings in the majority of patients whose lesions are resected and may also reflect the findings in unresected lesions.

The definition of "open-negative" based on the presence of a cavity and inability to recover tubercle bacilli from secretions is arbitrary, but a bacteriologic remission of six months or longer is recommended for inclusion in this category. Relapse should be defined as bacteriologic escape or combined roentgenographic-bacteriologic worsening without bacteriologic proof of its tuberculosis etiology.

The relationship between relapse, duration of bacteriologic remission, and the duration of effective drug therapy is in need of further study. Only then can the relative risk of relapse and the risk of resection in patients exemplifying the "open-negative" problem be fairly weighted.

———

Thomas B. Barnett, Edward Dunner, H. Corwin Hinshaw, Gardner Middlebrook, Donald L. Paulson, James W. Raleigh, William W. Stead, James A. Weir, chairman.

OVER 150,000 NEW ARIZONA HOUSEHOLDS FORECAST DURING 1960-1970

Households in Arizona are expected to grow by over 150,000 during the ten years between 1960 and 1970. By 1970, the NAM estimates, 587,200 family units will be competing in the market place for household goods and services in this State. The rate of household growth in Arizona is forecast to outpace by far the national household increase rate during the ten years ahead. These projections are made in a NAM report, "Dynamic Decade, 1960-1970."

Western Division of the
National Association of Manufacturers

Future Medical Meetings and Postgraduate Education

ARIZONA ACADEMY OF GENERAL PRACTICE CONVENTION

OCTOBER 13, 14, 15, 1960
Hotel Valley Ho — Scottsdale
All Physicians Cordially Invited
PROGRAM
THURSDAY, OCTOBER 13, 2-5:00 P.M.
"The Roll of Professional Management"
Speaker, Mr. Edward W. Rice
Doctors' Business Bureau
Boise, Idaho
SUBJECT NO. 2
"The Doctor's Accountant"
Speaker, Mr. Gary Wade
Doctors' Business Bureau
Tucson, Arizona
SUBJECT NO. 3
"Paying for Medical Care"
Speaker, Mr. George Richardson
Medical-Dental-Finance Bureau
Phoenix, Arizona
FRIDAY, OCTOBER 14, 9-12:00 P.M.
Urology Clinic
"The Use and Abuse of Catheters"
"Urologic Conditions that Simulate General Surgical Conditions in the Abdomen"
Speaker, David K. Worgan, M.D.
Seattle, Washington
FRIDAY, OCTOBER 14, 2-5:00 P.M.
Psychosomatic Clinic
"Psychosomatic Medicine in General Practice"
Speaker, Edward J. Kollar, M.D.
The Neuropsychiatric Institute
UCLA
SATURDAY, OCTOBER 15, 8-12:00 P.M.
Burn Clinic
"Burn Management"
Speaker, Edward N. Vogel, Jr., M.D., Col. MC
Brooke Army Hospital

Local moderators will appear on the program and there will be sufficient breaks for questions and answers and to visit the exhibits.

SOCIEDAD MEDICA DE ESTADOS UNIDAS DE NORTEAMERICA Y MEXICO

MEDICAL SOCIETY OF THE UNITED STATES & MEXICO

Medical Society of the United States and Mexico Fifth Annual Meeting — Guadalajara, Jal., Mexico, November 8-9-10; followed by Mazatlan, Sin., Mexico, November 11-12. For information write: M. A. Carreras, M.D., 130 South Scott, Tucson, Arizona.

9TH ANNUAL CANCER SEMINAR

of the Arizona Division
American Cancer Society
"Changing Concepts in Tumor Formation and Therapy"
Tentative Program
January 12, 13 & 15, 1961
Tidelands Motor Inn — Tucson

Thursday, January 12

9:00 A.M. — Greetings — Dr. Lindsey E. Beaton, President, The Arizona Medical Association.

9:15 A.M. — Some Metabolic Approaches to Cancer Chemotherapy — Part 1 — Arnold D. Welch, Ph.D., M.D.

9:45 A.M. — Theoretical Aspects of Immunology — Chester M. Southam, M.D.

10:30 A.M. — Break.

10:45 A.M. — The Polyoma Story — Arthur W. Ham, M.B.

11:15 A.M. — Diagnostic and Therapeutic Studies on Cancer of the Adrenal — Roy Hertz, M.D.

12:00 Noon — Luncheon and Round Table.

2:00 P.M. — The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors — Jeanne C. Bateman, M.D.

2:30 P.M. — Laboratory Studies in Cancer Chemotherapy with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.

3:00 P.M. — Break.

3:15 P.M. — Bone Pathology — C. Howard Hatcher, M.D.

3:45 P.M. — Question and Answer Session.

Friday, January 13

9:15 A.M. — Assessment of Environmental Agents in the Pathogenesis of Lung Cancer — Paul Kotin, M.D.

9:45 A.M. — Indirect Mechanisms in Carcinogenesis — Henry S. Kaplan, M.D.

10:15 A.M. — Break.

10:30 A.M. — Some Metabolic Approaches to Cancer Chemotherapy — Part II — Arnold D. Welch, Ph.D., M.D.

11:15 A.M. — Chemotherapy of Choriocarcinoma and Related Trophoblastic Tumors — Roy Harris, M.D.

12:00 Noon — Luncheon.

1:30 P.M. — Treatment of Bone Tumors — C. Howard Hatcher, M.D.

2:00 P.M. — The Treatment of Advanced Metastatic Tumors — Jeanne C. Bateman, M.D.

2:30 P.M. — Break.

2:45-4:00 P.M. — Panel: Care of the Patient with Advaneed Malignancy — Jeanne C. Bateman, M.D.; Roy Hertz, M.D.; Charles Heidelberger, Ph.D.; Henry S. Kaplan, M.D., plus clergy and two clinicians.

Saturday, January 14

9:15 A.M. — Clinical Pharmacology Studies with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.

9:45 A.M. — Immunology As It Relates to Cancer: Clinical Applieations — Past Attempts and Future Possibilities — Chester M. Southam, M.D.

10:15 A.M. — Break.

10:30 A.M. — Host Faetors in Relation to the Action of Environmental Carcinogenic Agents — Paul Kotin, M.D.

11:00 A.M. — Chemical Modification of Radiosensitivity — Henry S. Kaplan, M.D.

11:30 A.M. — Possible Tumor Viruses in Man — Arthur W. Ham, M.B.

FACULTY
9TH ANNUAL CANCER SEMINAR

Jeanne C. Bateman, M.D., Washington Hospital Center, Washington, D. C.

Arthur W. Ham, M.B., Head, Department of Medical Biophysics, University of Toronto, The Ontario Cancer Institute.

C. Howard Hatcher, M.D., Professor and Head, Division of Orthopedics, Department of Surgery, Stanford University School of Medicine.

Charles Heidelberger, Ph.D., Professor of Oncology, McArdle Memorial Laboratory for Cancer Research, The University of Wiseonsin Medical School.

Roy Hertz, M.D., Chief, Endocrinology Branch, National Institute of Health, Department of Health, Education and Welfare, Public Health Service.

Henry S. Kaplan, M.D., Executive, Department of Radiology, Stanford University School of Medicine.

Paul Kotin, M.D., Paul Peirce Professor of Pathology, University of Southern California School of Medicine.

Chester M. Southam, M.D., Sloan-Kettering Institute for Cancer Research.

Arnold D. Welch, Ph.D., M.D., Eugene Higgins Professor of Pharmacology and Chairman of Department, Sterling Hall of Medicine, Yale University School of Medicine.

THE AMERICAN COLLEGE OF PHYSICIANS

Postgraduate Courses, Autumn-Winter, 1960-61

COURSE NO. 1: HEMATOLOGY AND RADIOISOTOPES, The Ohio State University College of Medicine, Columbus, Ohio, September 19-23, 1960.

COURSE NO. 2: CANCER AND THE INTERNIST — 1960 CONCEPTS, Memorial Center, Sloan-Kettering Institute for Cancer Research, New York, N. Y., October 10-14, 1960.

COURSE NO. 3: ELECTROCARDIOGRAPHY, University of Utah College of Medicine, Salt Lake City, Utah, November 7-11, 1960.

COURSE NO. 4: RECENT ADVANCES IN DRUG THERAPY, University of Washington School of Medicine, Seattle, Washington, January 9-13, 1961.

COURSE NO. 5: MECHANISMS OF DISEASE, Columbia University College of Physicians and Surgeons, Presbyterian Hospital, New York, N. Y., January 16-20, 1961.

COURSE NO. 6: SELECTED TOPICS IN INTERNAL MEDICINE, The University of Oklahoma, School of Medicine and University Hospitals, Oklahoma City, Oklahoma, February 20-24, 1961.

COURSES ON MANAGEMENT OF MASS CASUALTIES

The following spaces for civilian physicians for Management of Mass Casualties courses during fiscal 1961 have been made available to the AMA Council on National Security by the Office of the Surgeon General, Department of the Army:

Installation	*Date*	*Quota*
Army Medical Service		
School, Brooke Army	Oct. 3-7, 1960	2
Medical Center, Fort	Nov. 5-9, 1960	2
Sam Houston, San	Jan. 30-Feb. 3, 1961	2
Antonio, Texas	May 22-26, 1961	2

Physicians interested in attending one of these courses are requested to write directly to the Council on National Security. Names and addresses of physicians selected to attend any course must be furnished by the Council to the commander of the installation conducting the course not later than four weeks prior to the scheduled course date.

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AMERICAN COLLEGE OF SURGEONS
46th Annual Clinical Congress
October 10-14, 1960
San Francisco, Calif.

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The 1960 revised edition of the American Association of Blood Banks' technical manual, TECHNICAL METHODS AND PROCEDURES, (108 pages), is now available. Published by the AABB, copies are available from the American Association of Blood Banks, Suite 1619, 30 N. Michigan Avenue, Chicago 2, Illinois. Cost to members: 1-5 copies, $4 per copy; 6 or more, $3.50; non-members, $5.

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1. Eisen, H. N., and Tabachnick, M.: Pratein Metabalism, M. Clin. Narth America 39:863 (May) 1955. 2. Jamisan, R. M.: General Nutritive Deficiency, Virginia M. Manth. 83:67 (Feb.) 1956. 3. Galdfarb, A. F.; Napp, E. E.; Stane, M. L.; Zuckerman, M. 8., and Siman, J.: The Anabalic Effects af Narethandralane, a 19-Nartestasterane Derivative, Obst. & Gynec. 11:454 (April) 1958. 4. Batsan, R.: Investigatar's Repart, Feb. 11, 1956. 5. Westan, R. E.; Isaacs, M. C.; Rasenblum, R.; Gibbans, D. M., and Grassman, J.: Metabalic Effects af an Anabalic Steraid, 17-Alpha-Ethyl-17-Hydraxy-Narandrastenane, in Human Subjects, J. Clin. Invest. 35:744 (June) 1956. 6. Brawn, C. H.: The Treatment af Acute and Chranic Ulcerative Calitis, Am. Pract. & Digest Treat. 9:405 (March) 1958.

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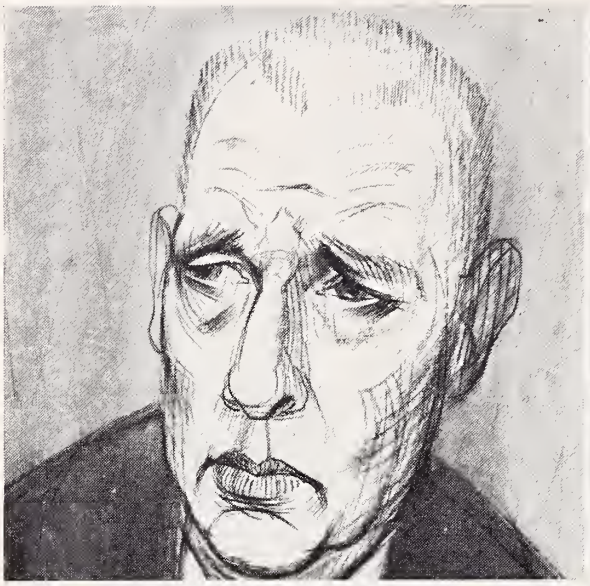
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Kestler, O.: Conservative Management of "Low Back Syndrome", J.A.M.A. 172: 2039 (April 30) 1960.

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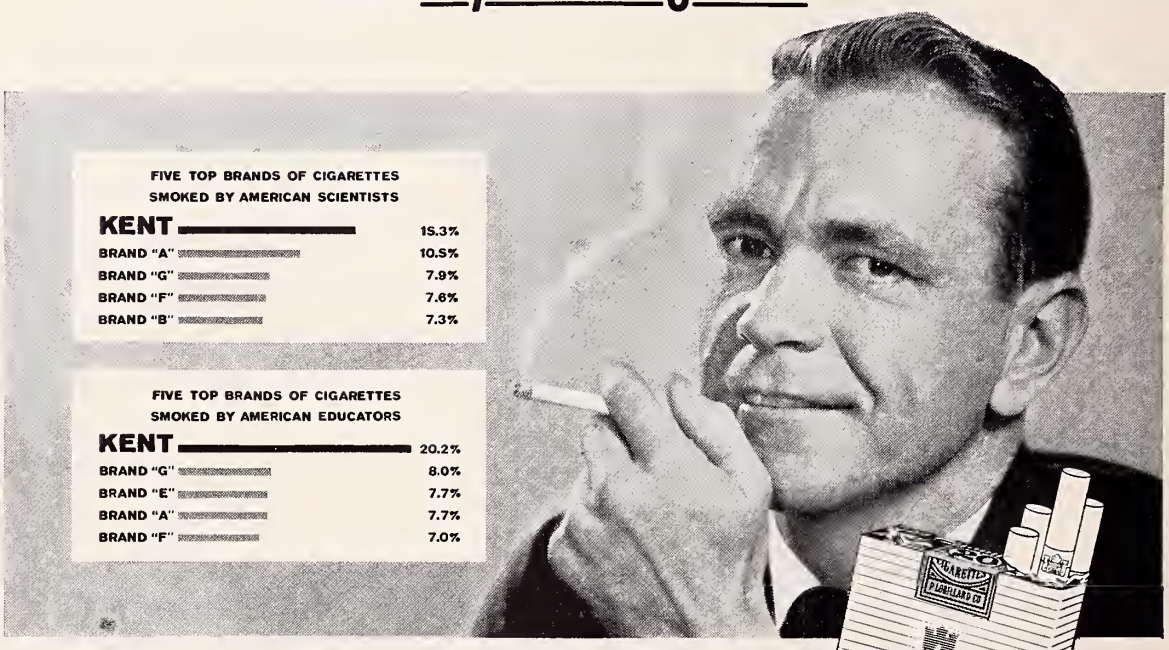
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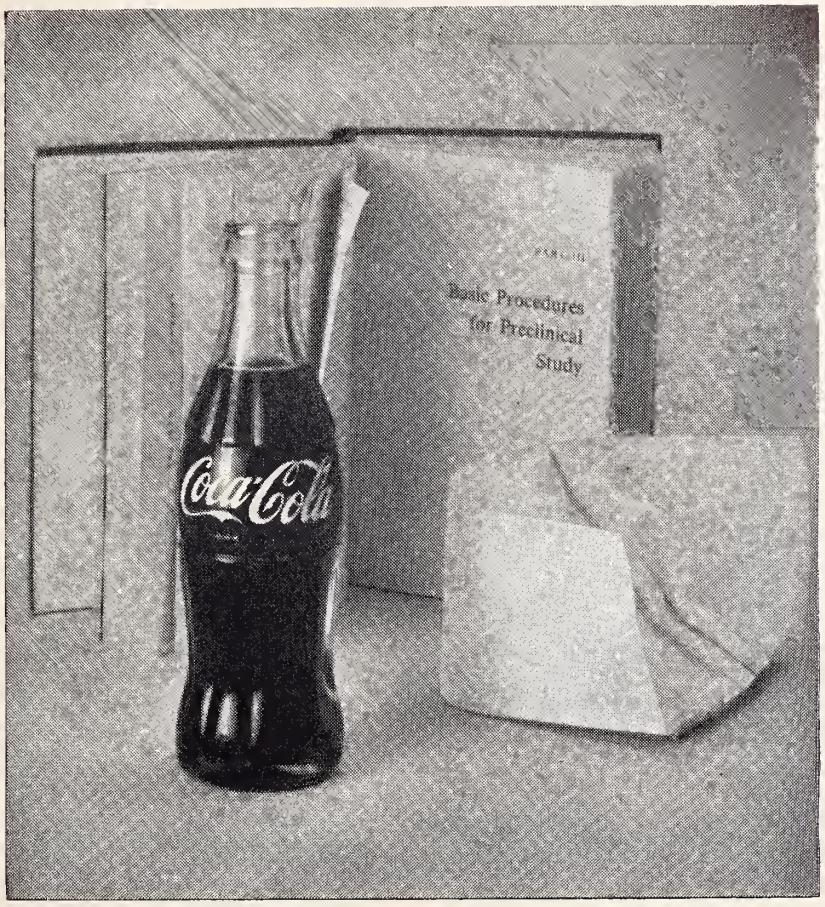
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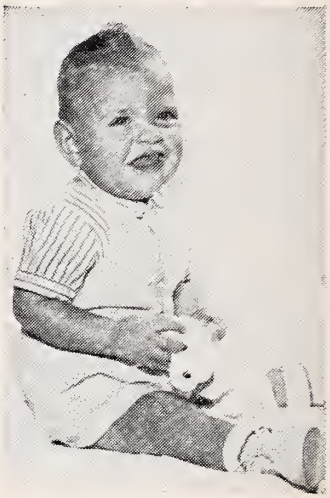
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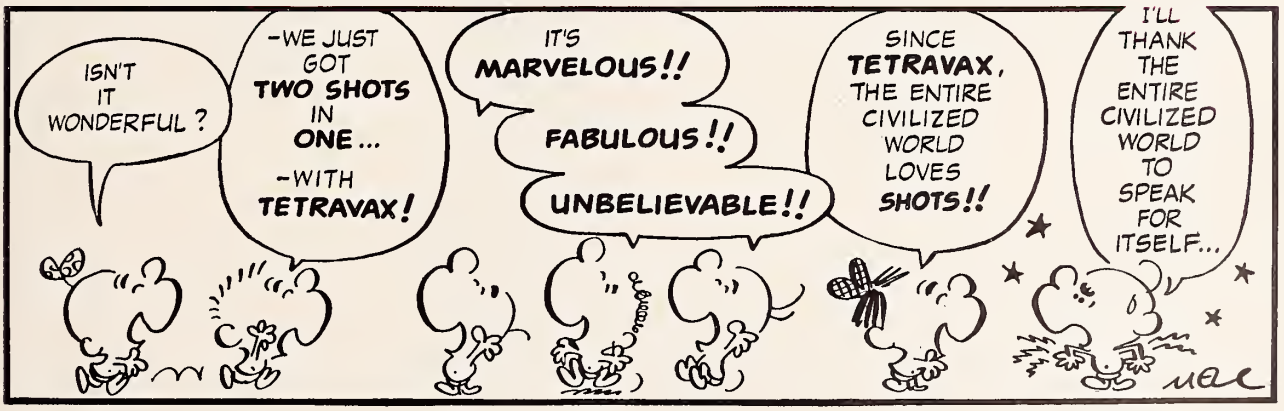
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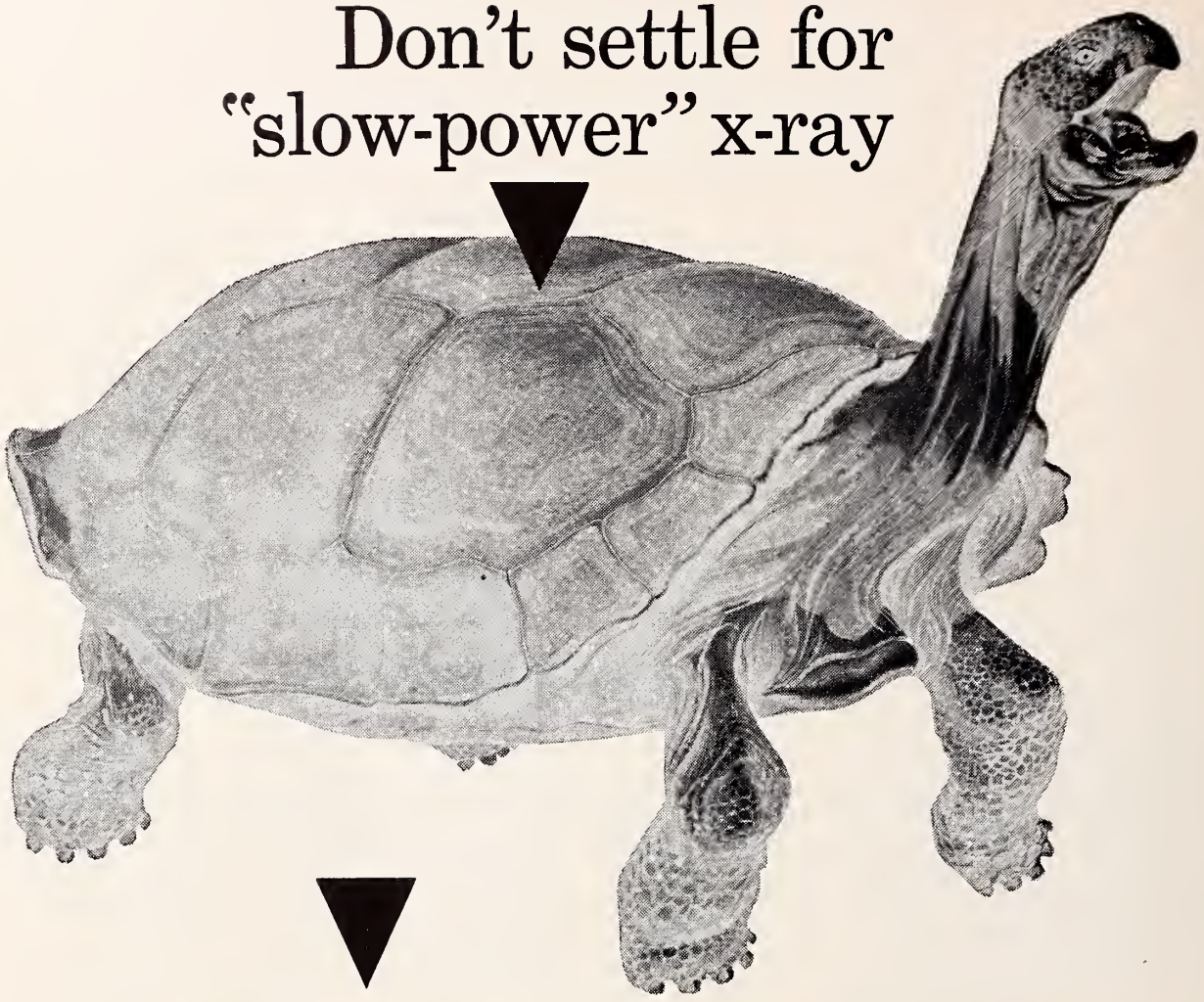


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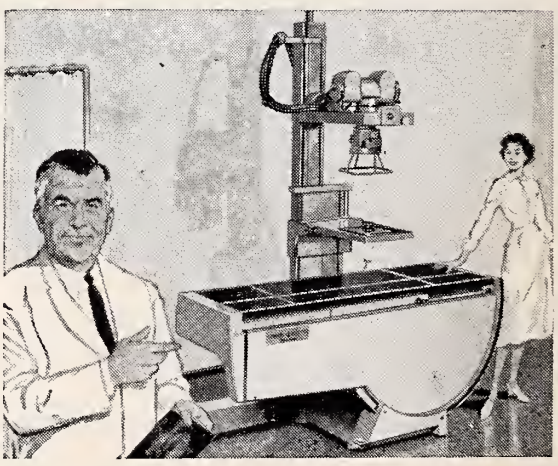
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1. Ganz, S. E.: *J. India* 52:1134, July, 1959. 2. Kearn *Current Therap. Res.* 2:1 1960. 3. Lichtman, A. L.: *Acad. Gen. Pract. J.* 4:28,

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Spasm related to trauma	15	6	1	—	22
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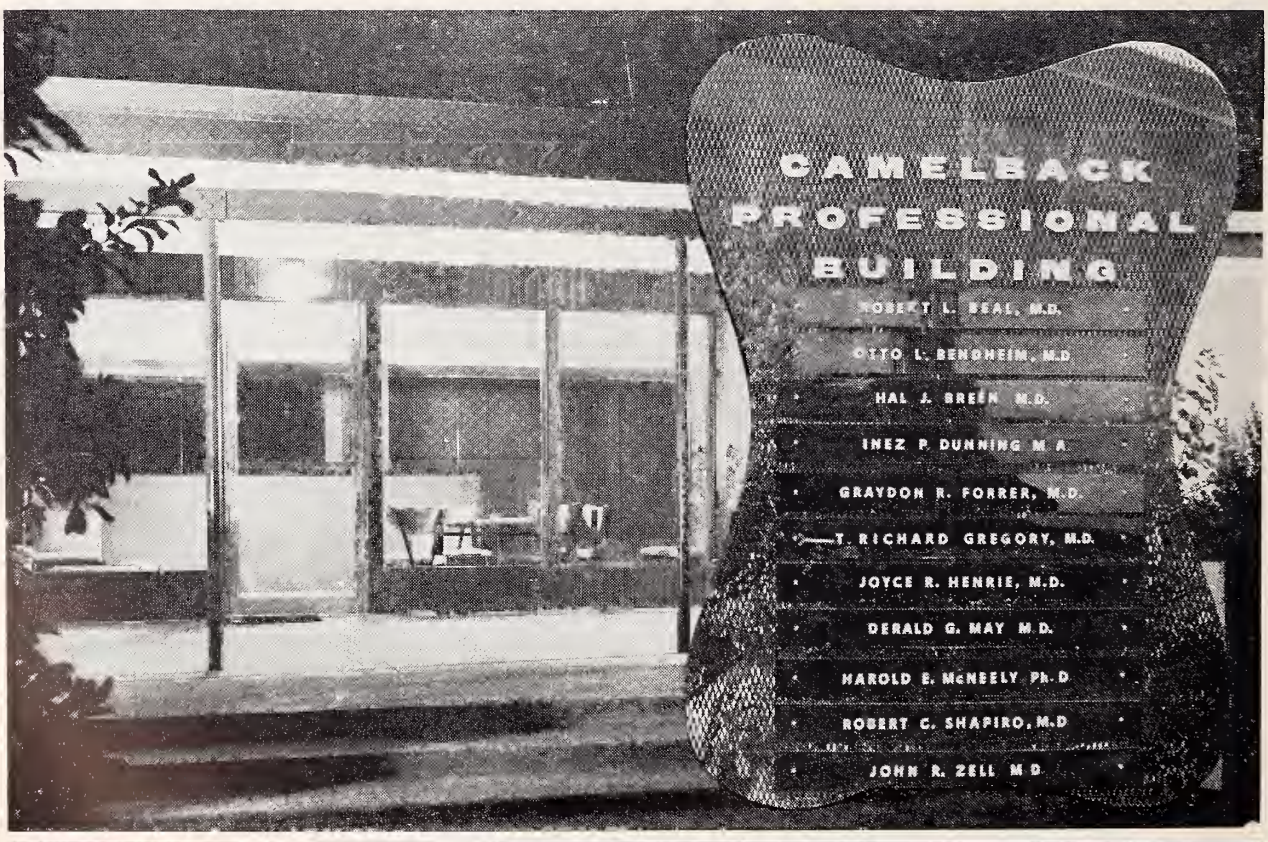
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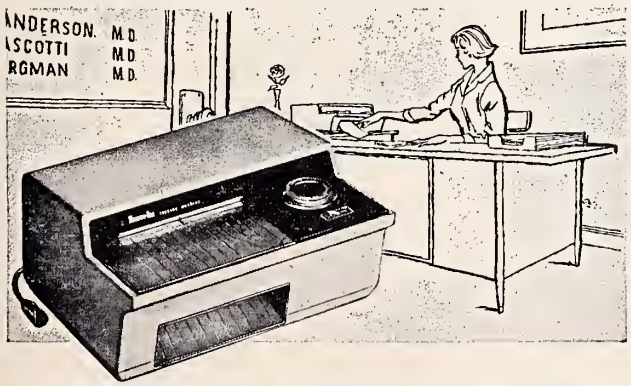
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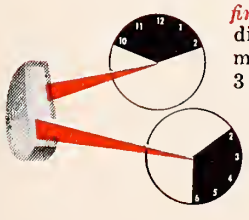
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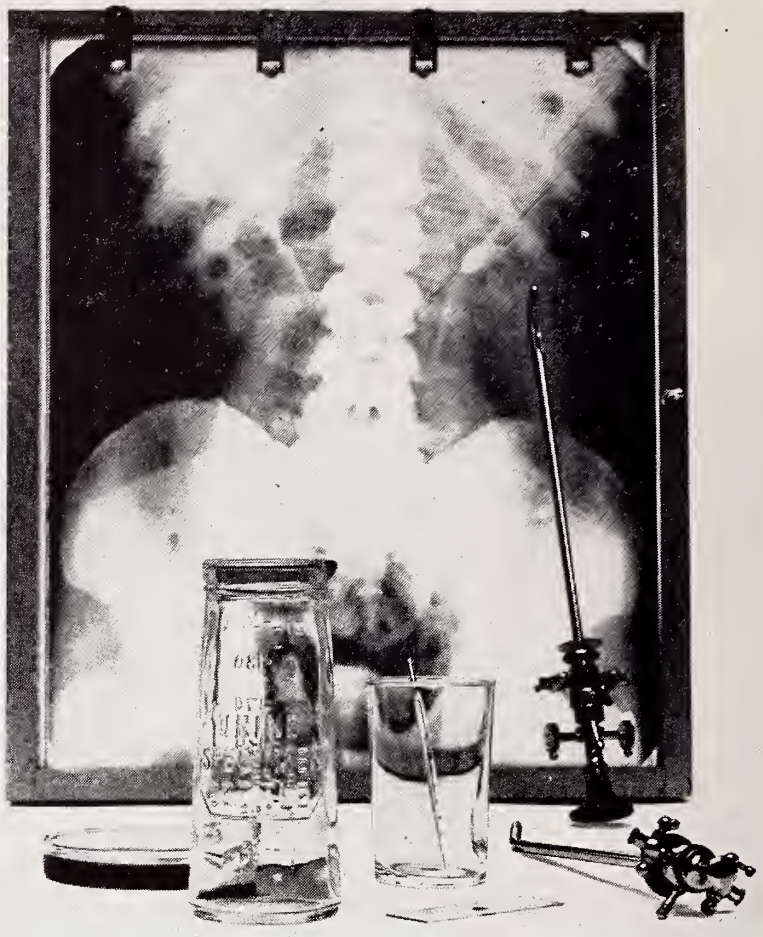
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1. Boger, W. P.; Strickland, C. S., and Gylfe, J. M.: *Antibiotic Med. & Clin. Ther.* 3:378 (Nov.) 1956. 2. Boger, W. P.: In: *Antibiotics Annual* 1958-1959, New York, Medical Encyclopedia, Inc., 1959, p. 48. 3. Sheth, U. K.; Kulkarni, B. S., and Kamath, P. G.: *Antibiotic Med. & Clin. Ther.* 5:604 (Oct.) 1958. 4. Anderson, P. C., and Wissinger, H. A.: *U. S. Armed Forces M. J.* 10:1051 (Sept.) 1959.

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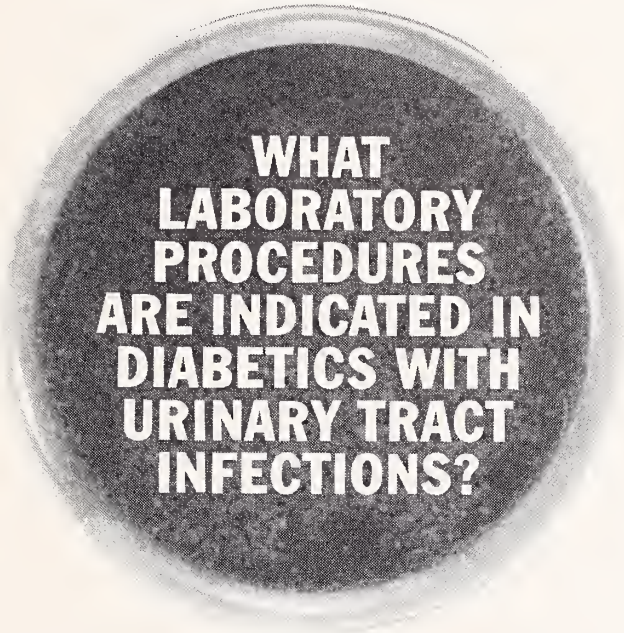
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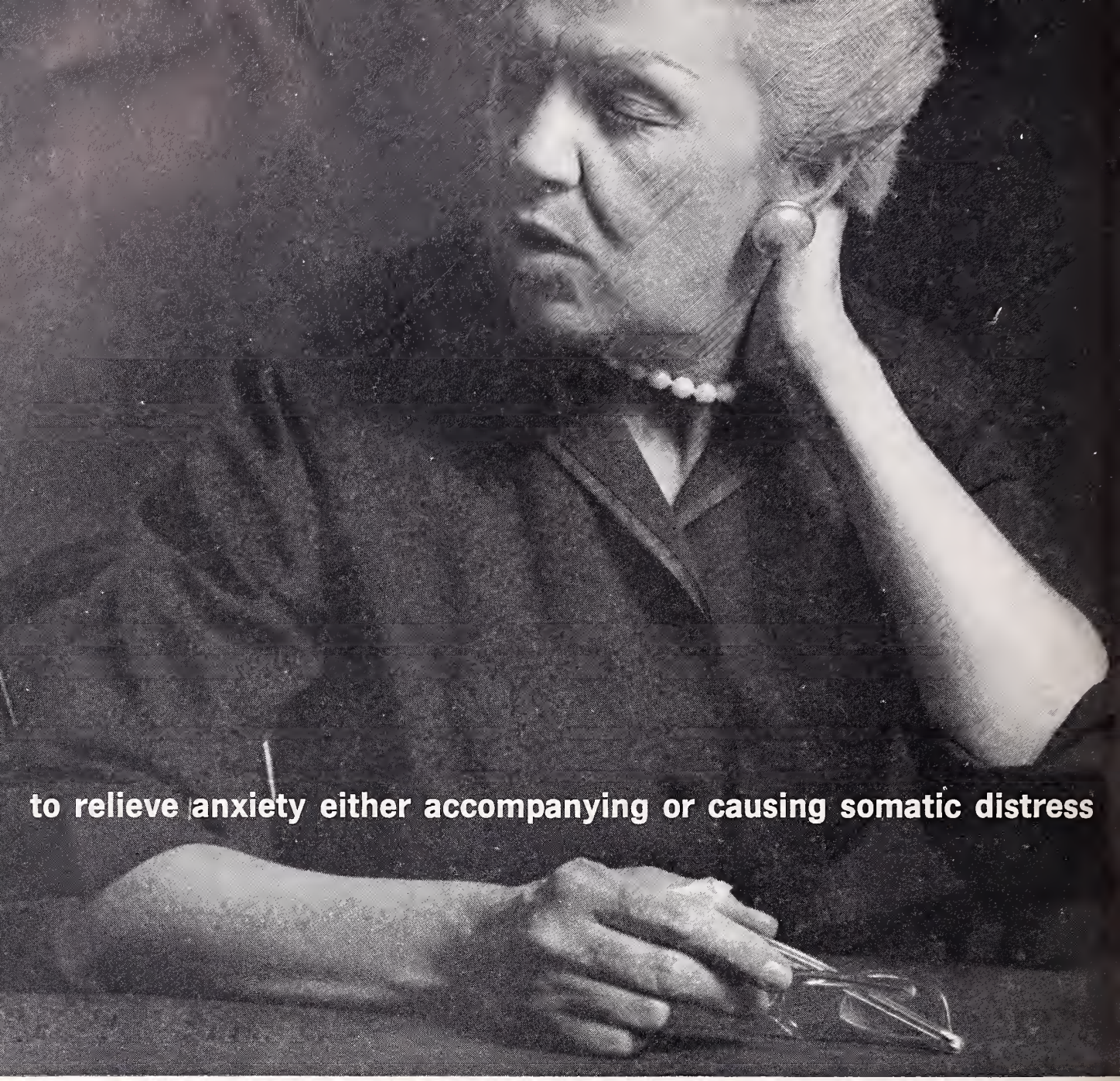
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1. Marx, F.J., in *Trifluoperazine: Further Clinical and Laboratory Studies*, Philadelphia, Lea & Febiger, 1959, p. 89.
2. Winkelman, N.W., Jr.: *ibid.*, p. 78.

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(1) Abraham, W., in Green, J. R., & Steelman, H. F.: Epileptic Seizures, Baltimore, Williams & Wilkins Company, 1956, p. 132. (2) Crawley, J. W.: M. Clin. North America 42:317 *(March) 1958. (3) Bray, P. F.:* Pediatrics 23:151, *1959.*

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Triacetyloleandomycin, equivalent to oleandomycin 125 mg. This is the URI antibiotic, clinically effective against certain antibiotic-resistant organisms.

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Triaminic®, 25 mg., three active components stop running noses. Relief starts in minutes, lasts for hours.

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Calurin®, calcium acetylsalicylate carbamide equivalent to aspirin 300 mg. This is the freely-soluble calcium aspirin that minimizes local irritation, chemical erosion, gastric damage. High, fast blood levels.

TAIN brings quick, symptomatic relief of the common cold (malaise, headache, muscular cramps, aches and pains) especially when susceptible organisms are likely to cause secondary infection. Usual adult dose is 2 Inlay-Tabs, q.i.d. In bottles of 50. ℞ only. Remember, to contain the bacteria-prone cold...TAIN.

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. . . a superior foundation drug for an antihypertensive regimen . . . often the only drug required . . . in other cases, enhances the effect of tranquilizers, sympathetic depressants, and ganglionic blockers.

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. . . prompt sodium excretion, with "a duration of at least 18 hours" on a single 50-mg. tablet[1]. . . repetitively effective.[1,3]

INDICATIONS: *Hypertension* and *hypertensive cardiovascular disease. Edema,* associated with cardiac or renal insufficiency, hepatic cirrhosis, pregnancy, premenstrual syndrome, or steroid administration.

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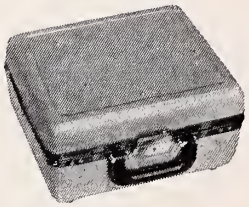
SUPPLY: Scored 50-mg. tablets; bottles of 50. Syrup, containing 50 mg. per 5-ml. teaspoonful; bottles of 8 fl. oz.

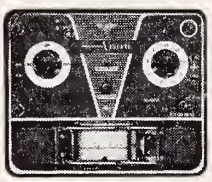
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In mild to moderate hypertension, Serpasil is basic therapy, effective alone "...in about 70 per cent of cases..."*

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CIBA
SUMMIT, N. J.

*Coan, J. P., McAlpine, J. C., and Boone, J. A.: J. South Carolina M. A. 51:417 (Dec.) 1955. /2830M6

Complete information available on request.





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REMEMBER THIS: SO DOES ENARAX

Think of your patient with peptic ulcer—or with gastrointestinal dysfunction—on a typical day.

Think of the anxieties, the tensions.

Think, too, of the night: the state of his stomach emptied of food.

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Then think of ENARAX. For ENARAX was formulated to help you control precisely this clinical picture. ENARAX provides oxyphencyclimine, the inherently long-acting anticholinergic (up to 9 hours of actual achlorhydria[1]) . . . plus Atarax, the tranquilizer that doesn't stimulate gastric secretion.

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When ulcerogenic factors seem to work against you, let ENARAX work **for you.**

ENARAX® B.I.D.

(10 MG. OXYPHENCYCLIMINE PLUS 25 MG. ATARAX®†) A SENTRY FOR THE G.I. TRACT

dosage: Begin with one-half tablet b.i.d. — preferably in the morning and before retiring. Increase dosage to one tablet b.i.d. if necessary, and adjust maintenance dose according to therapeutic response. Use with caution in patients with prostatic hypertrophy and only with ophthalmological supervision in glaucoma.

supplied: In bottles of 60 black-and-white scored tablets. Prescription only.

References: 1. Steigmann, F., **et al.:** Am. J. Gastroenterol. 33:109 (Jan.) 1960. 2. Hock, C. W.: to be published. 3. Leming, B. H., Jr.: Clin. Med. 6:423 (Mar.) 1959. 4. Data in Roerig Medical Department Files.

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for your patients with
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EFFECTIVE pain relief

SAFE for prolonged use

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"gratifying" *relief from stiffness and pain in 106-patient controlled study (as reported in J.A.M.A., April 30, 1960)*

"Particularly gratifying was the drug's [SOMA's] ability to relax muscular spasm, relieve pain, and restore normal movement . . . Its prompt action, ability to provide objective and subjective assistance, and freedom from undesirable effects recommend it for use as a muscle relaxant and analgesic drug of great benefit in the conservative management of the 'low back syndrome'."

Kestler, O.: Conservative Management of "Low Back Syndrome", J.A.M.A. 172: 2039 (April 30) 1960.

FASTER IMPROVEMENT—79% complete or marked improvement in 7 days (Kestler)

EASY TO USE—Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

SUPPLIED: 350 mg., white tablets, bottles of 50.
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To the relief of musculoskeletal pain, new MEDAPRIN* adds restoration of function

Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol,** the corticosteroid with *the best therapeutic ratio in the steroid field.*† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
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effective oral skeletal
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and tranquilizer
LETS THE PATIENT WALK
"HEADS UP"
in spite of torticollis.



Trancopal

relieves pain and spasm associated with torticollis.

In a recent study by Ganz, Trancopal brought considerable improvement or very effective relief to 20 of 29 patients with torticollis.[1] "The patients helped by the drug," states Ganz, "were able to carry the head in the normal position without pain." Similarly, Kearney found that in 8 of 13 patients with chronic torticollis treated with Trancopal improvement was excellent to good. ". . . Trancopal is the most effective oral skeletal muscle relaxant and mild tranquilizer currently available."[2]

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1. Ganz, S. E.: *J. Indian*
52:1134, July, 1959. 2. Kearne
Current Therap. Res. 2:12
1960. 3. Lichtman, A. L.:
Acad. Gen. Pract. J. 4:28, O

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Clinical results with Trancopal®[2]

	Excellent	Good	Fair	Poor	Total
LOW BACK SYNDROMES					
Acute low back strain	25	19	8	6	58
Chronic low back strain	11	5	1	1	18
"Porters' syndrome"*	21	5	1	1	28
Pelvic fractures	2	1	—	—	3
NECK SYNDROMES					
Whiplash injuries	12	6	2	1	21
Torticollis, chronic	6	2	3	2	13
OTHER MUSCLE SPASM					
Spasm related to trauma	15	6	1	—	22
Rheumatoid arthritis	—	18	2	1	21
Bursitis	2	6	1	—	9
TENSION STATES	18	2	4	3	27
TOTALS	112 (51%)	70 (32%)	23 (10%)	15 (7%)	220 (100%)

*Over-reaching in lifting heavy bags resulting in sprain of upper, middle, and lower back muscles.

Dosage: **Adults, 200 or 100 mg. orally three or four times daily.**
Relief of symptoms occurs in from fifteen to thirty minutes and lasts from four to six hours.

How Supplied: Trancopal Caplets®
200 mg. (green colored, scored), bottles of 100.
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in Donnalate: Dihydroxyaluminum aminoacetate affords more consistent neutralization than can diet alone. • Phenobarbital improves the possibility of your patient's resting as you told him to. • Belladonna alkaloids reduce GI spasm and gastric secretion. And by decreasing gastric peristalsis, they enable the antacid to remain in the stomach longer.

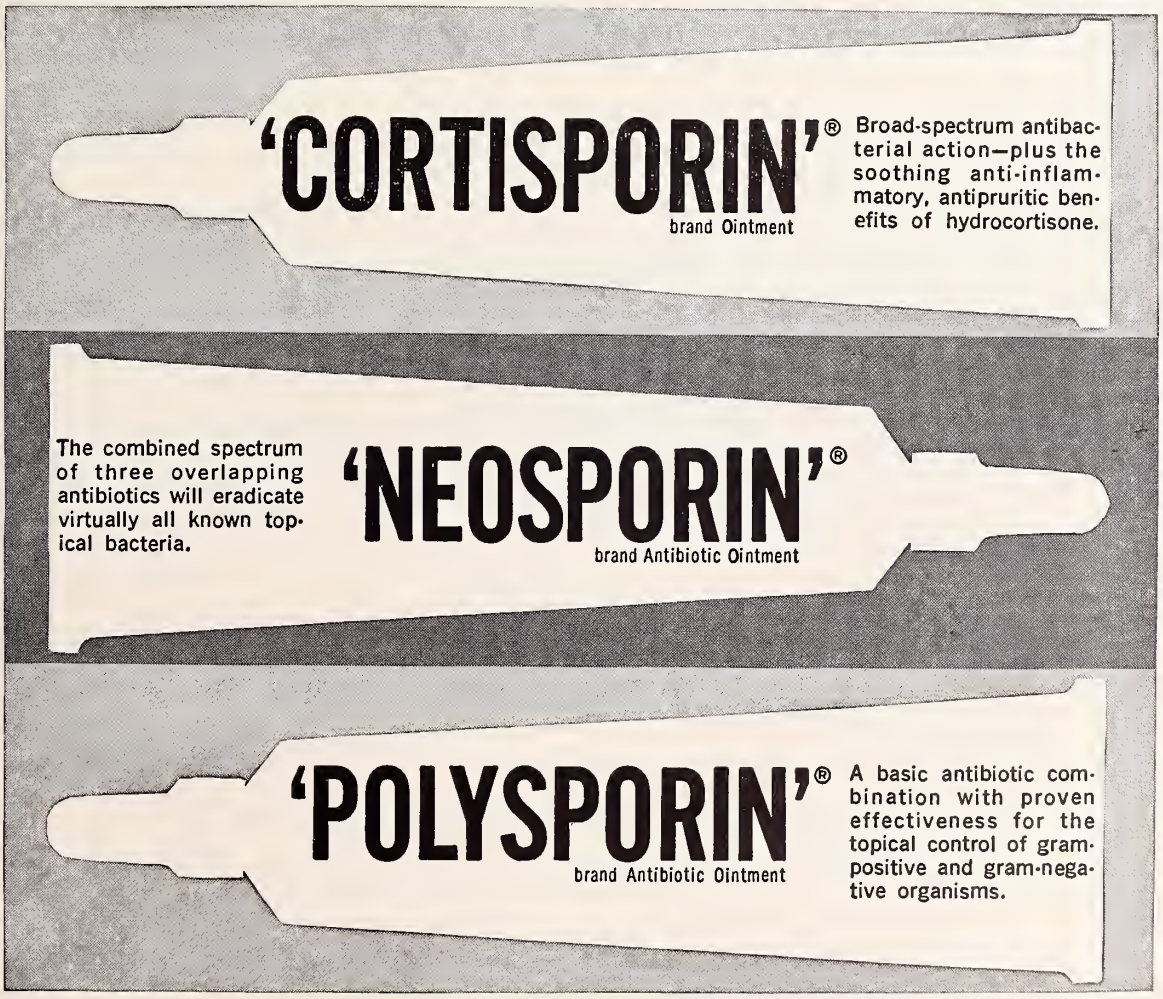
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Supplied:	Tubes of 1 oz., ½ oz. and ⅛ oz. (with ophthalmic tip)	Tubes of 1 oz., ½ oz. and ⅛ oz. (with ophthalmic tip)	Tubes of ½ oz. and ⅛ oz. (with ophthalmic tip)

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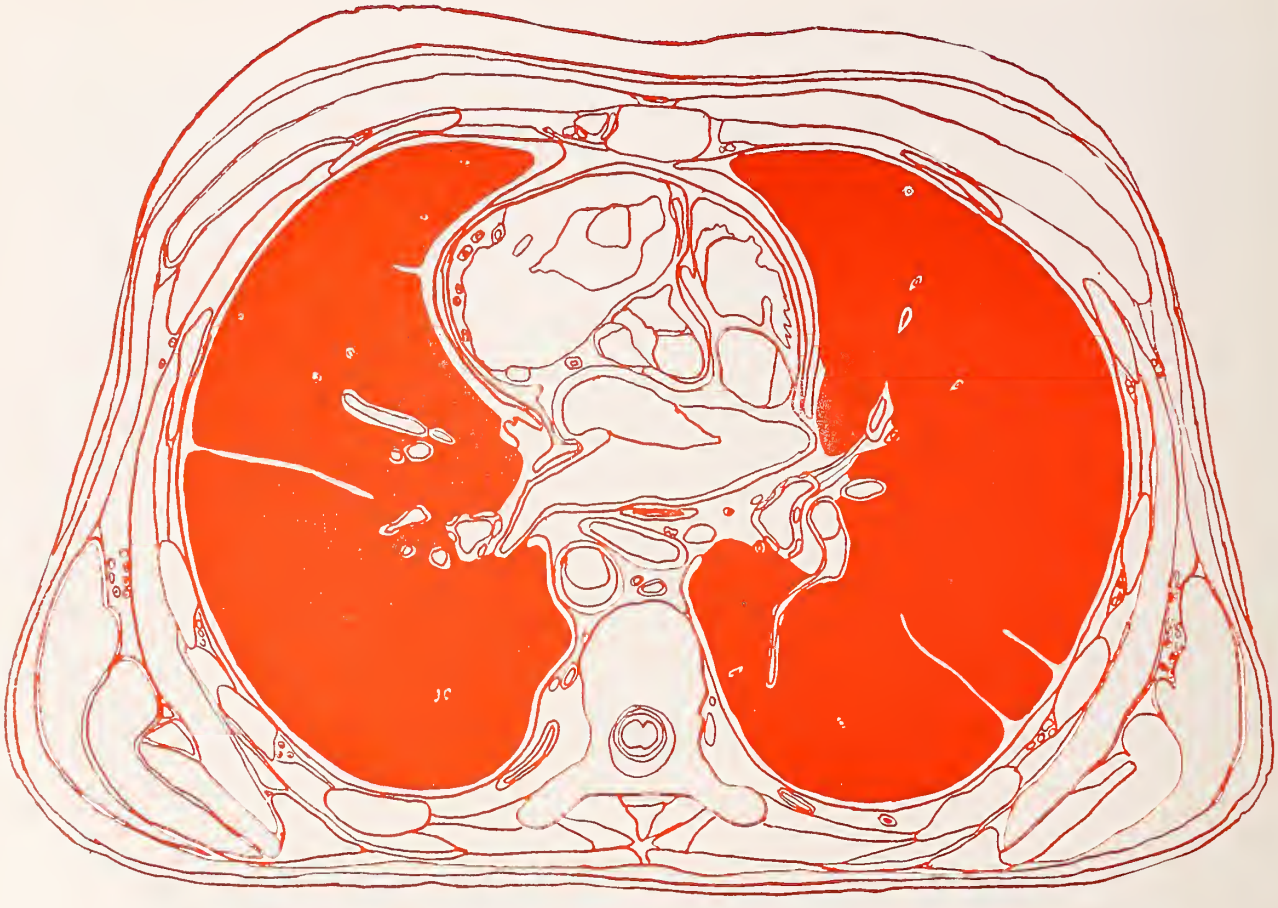
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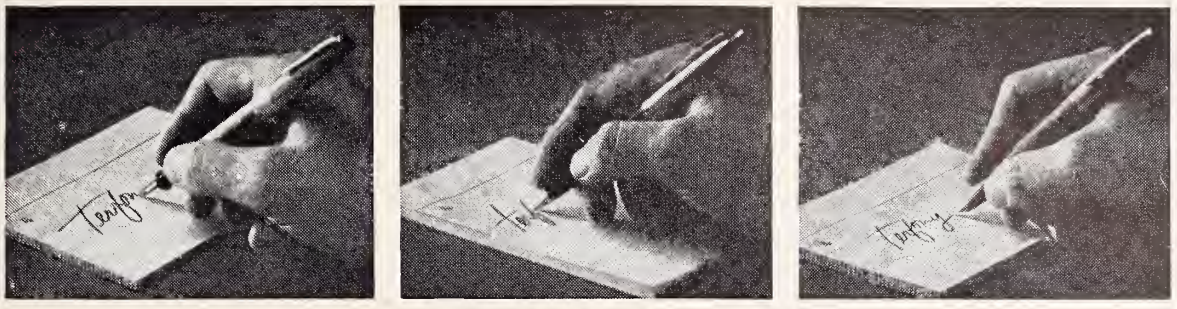


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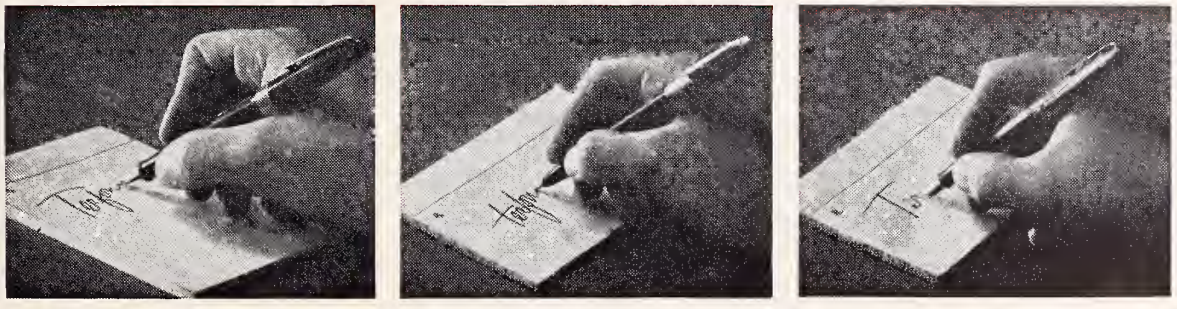
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Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient – *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation – *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety – both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

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Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

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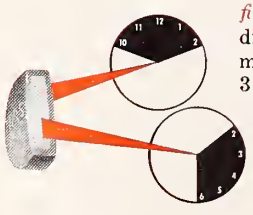


...and for humans with CLOGGED-UP NOSES...

Nasal congestion often persists with "bulldog tenacity." Nose drops and sprays often reach only the more superficial respiratory membranes and therefore fail to provide adequate relief. Furthermore, they may add to the patient's misery by producing rebound congestion, ciliary inhibition, and eventually "nose drop addiction." TRIAMINIC reaches *all* nasal and paranasal membranes *systemically* — provides more complete, longer-lasting relief while it avoids the harmful side effects associated with topical medication.

Indications: nasal and paranasal congestion, sinusitis, postnasal drip, upper respiratory allergy.

Relief is prompt and prolonged because of this special timed-release action:



first — the outer layer dissolves within minutes to produce 3 to 4 hours of relief

then — the core disintegrates to give 3 to 4 *more* hours of relief

Each Triaminic timed-release Tablet provides:
Phenylpropanolamine HCl.....50 mg.
Pheniramine maleate.....25 mg.
Pyrilamine maleate.....25 mg.

Dosage: 1 tablet in the morning, midafternoon and at bedtime. In postnasal drip, 1 tablet at bedtime is usually sufficient.

Each timed-release Triaminic Juvelet® provides:
½ the formulation of the Triaminic Tablet.
Dosage: 1 Juvelet in the morning, midafternoon and at bedtime.

Each tsp. (5 ml.) of Triaminic Syrup provides:
¼ the formulation of the Triaminic Tablet.
Dosage (to be administered every 3 or 4 hours):
Adults — 1 or 2 tsp.; *Children 6 to 12* — 1 tsp.;
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timed-release tablets, juvelets, and syrup

STOP *running noses* *and open stuffed noses orally*

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ONE *and only ONE*

Timed AMO*dex* CAPSULE

PER DAY *will economically*

control appetite in weight reduction or relieve the nervous symptoms of anxiety and the underlying depression.

6-10 HOURS SUSTAINED THERAPY

Timed AMO*dex CAPSULES* (Testagar) furnish a controlled uniform action. The medications provide prolonged, continuous therapeutic effect from active ingredients over a period of 6 to 10 hours.

Following ingestion of one *Timed* AMO*dex CAPSULE*, small amounts of the medication are released immediately.

Each *Timed* AMO*dex CAPSULE* contains a daily therapeutic dose of:

Dextro-amphetamine hydrochloride	15 mg.,
Amobarbital	60 mg.

AMO*dex* ADVANTAGES

- HIGH-LEVEL ANOREXIGENIC ACTIVITY WITHOUT NERVOUS EXCITATION
- SMOOTH, UNIFORM ACTION
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- ONLY ONE DOSE DAILY
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Before the development of *Timed* AMO*dex* (Testagar) the usual dose of Dextro-amphetamine hydrochloride, for the control of appetite, was one 5 mg. tablet two or three times a day. The usual dose of Amobarbital ranged from 20 to 40 mg., two or three times a day. On such a dosage regimen the absorption of the drugs, after ingestion, takes place quite rapidly. The therapeutic activity occurs within one-half to one hour. When the therapeutic peak is reached, a gradual decline takes place. At this point, the patient should receive another dose of medication . . . the cycle is then repeated.

Patients frequently fail to follow the physician's instructions. They take medication at irregular intervals. When this occurs with drugs such as dextro-amphetamine sulfate, phosphate or hydrochloride, excitation may result. A balanced combination of Dextro-amphetamine hydrochloride, **the preferred salt,** plus a balanced daily dose of Amobarbital will give the expected therapeutic results *without* excitation.

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ACTION AND USES

Timed AMO*dex CAPSULES* (Testagar) supply the antidepressant and mood-elevating effects of Dextro-amphetamine hydrochloride and the calming action of Amobarbital. *Timed* AMO*dex* elevates the mood, relieves nervous tension, restores emotional stability and the capacity for mental and physical effort.

Timed AMO*dex CAPSULES* are manufactured under these patent numbers:
2,736,682 – 2,809,916
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Which provide prolonged, continuous therapeutic effect over a period of 6-10 hours

INDICATIONS

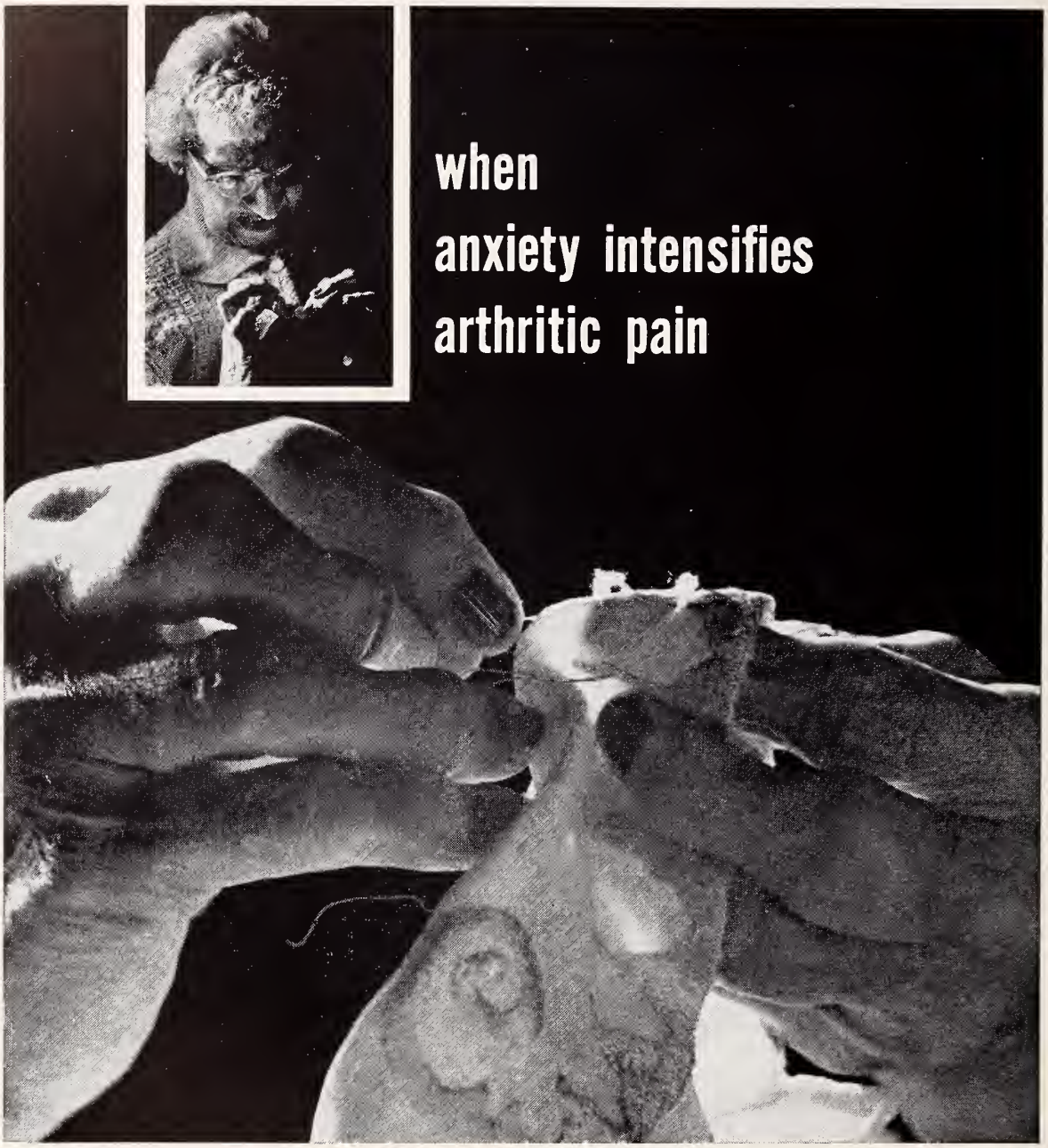
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DOSAGE The Daily Dose of *Timed* AMO*dex* (Testagar) IS ONE CAPSULE ON ARISING OR AT BREAKFAST.

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Usual Dosage:
1 or 2 Pulvules three or four times daily.

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Original Articles

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Present Day Management Of Hypertension*

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IT MIGHT be well to spend a good portion of our time today going over some of the background of the management of patients with hypertension before we launch into a discussion of the use of specific drugs, because it seems to me that much of what we're doing — certainly much of what we have done in the past — is subject to change, and that drugs may come and drugs may go, while hypertension is probably here to stay. At least that is my philosophy. I don't think we are going to get rid of hypertension as a clinical problem any more than we're going to get rid of peptic ulcer or colitis or a number of other chronic diseases to which people for some reason seem to be predisposed. And, therefore, if you will bear with me, I thought I would take you over some of the philosophical background concerning the etiology and the pathogenesis of this disease, relating this, however, purely to clinical patients, and having nothing to do specifically with animal or other experimental studies.

Let me give you one way of classifying arterial hypertension from the standpoint of etiology. Now as you know, we have essential hypertension, and renal, adrenal, and neurogenic hypertension, coarctation of the aorta, and toxemia of pregnancy. There may be some other rarer forms. But whenever we see a patient whose blood pressure has been found elevated — and usually this is how the patient comes to me, that is, somebody, an insurance examiner, an army doctor or local physician has revealed that the patient has an elevated blood pressure — these things flash through my mind. Some of

*Presented at the Third Annual Cardiac Symposium sponsored by the Arizona Heart Association at Phoenix, Arizona on January 29 and 30, 1960.

Editorial note: The Spanish translation of this article will appear in the November 1960 issue.

them may be rather readily dismissed — as for example, coarctation of the aorta. Certainly hypertension of toxemia of pregnancy doesn't have to be considered except in half the population, and in that half, only if they are pregnant.

Now "essential hypertension" is a sort of catch-all, not a satisfactory way to make a diagnosis, but it is what's left when you eliminate the other causes. So let's talk about these other causes for a moment. We are becoming increasingly impressed with the frequency of renal disease as an antecedent or accompanying phenomenon in patients with hypertension. This is most usually bilateral, and in our experience it is in the form of pyelonephritis, an extremely common disease if one makes every effort to diagnose it by going to the extent that some of our renal experts are doing now, such as taking biopsies. Unfortunately it is not frequently unilateral — I say unfortunately it is not, because until recently, and this of course, is also subject to change, we felt we could *cure* patients with unilateral renal hypertension through surgery. You may detect a note of doubt in my mind as to whether they should all be subjected to surgery, and I hope to come back to that later. In adrenal hypertension we have, of course, pheochromocytomas, which are relatively easy to diagnose, provided you think of the diagnosis, and especially if you take the trouble to do one or more 24-hour urine samples for the excretion of catecholamines. Primary aldosteronism formerly was easy to diagnose, or at least to suspect; but then we began to use diuretics in hypertension which "loused up" for us the easy way of diagnosing hyperaldosteronism, namely by a low serum potassium which tipped us off frequently that a patient might have this disease. Now we have to resort to more difficult techniques; we certainly would stop the diuretics and repeat the potassium determination, but it may take several weeks for the potassium then to swing back up into the normal range. The Cushing syndrome is fairly familiar to us all now that we're seeing it produced iatrogenically with steroids. The term adrenogenital syndrome does not refer to children — I know nothing about pediatric endocrinology — but to an adult state, usually in women, where there is virilism with diffuse hyperplasia of the adrenals, and hypertension as one of the manifestations; this is not usually difficult to spot once you think of the diagnosis. Rarer forms of neurogenic hypertension such as those that occur through the Cushing mechanism — the same Cushing, but not the same disease — through increased intracranial pressure, such as with a brain tumor. We occasionally see acute hypertension as a manifestation of poliomyelitis, occasionally with tabes or other myelopathies in the cord, and occasionally with polyneuritis. Pain, if present, makes these probably not purely neurogenic, but partly psychoneurogenic. Hypertension of coarctation of the aorta is familiar to you all, and we won't dwell on toxemia of pregnancy although it is an extremely interesting type of hypertension.

Now what do you do about a given hypertensive once these thoughts have flowed through your mind, in order to try and find out what you're dealing with? Well, there are some routine studies that always should be done, and then there are some special studies that may be done. Certainly the blood pressure should be taken in both arms, and if there's any suspicion that coarctation is present, pressure should be taken also in the legs, and it should be taken lying and standing, as well as sitting. We feel that the standing blood pressure, if it shows postural hypotension, may tip you off that something other than essential hypertension is present, because in essential hypertension the blood pressure generally *rises* (both systolic and diastolic) in the upright position, and certainly the diastolic usually rises. Therefore, in a patient who has postural hypotension, and by that I mean he has a falling diastolic pressure in the upright position, one suspects that this is *not* essential hypertension. A decreased intensity and delayed appearance of the lower pulses, especially in the femorals, of course, is related to coarctation of the aorta. The routine blood studies, particularly with emphasis on serum potassium, serum sodium, and blood-urea nitrogen or N.P.N., are very important in giving a prognostic evaluation as well as a diagnosis of a patient with essential hypertension or any other hypertension. We're now also interested, and I will tell you why tomorrow when we talk about cholesterol and anticholesterolemic agents, in taking blood total cholesterol in hypertensives. Of course, one does the albumin, sugar and so on in the urine, but our best clinical test, we feel, for renal function, even if the urea-nitrogen

is normal, is the fractional P.S.P. excretion test. We feel that this test should be done carefully, that is, the patient should first be hydrated in order to get the urine flow up, the dye should then be given, all the urine produced in the first 15 minutes after the dye should be put into one container — *all* of it and *exactly* at the end of the fifteen minutes. Now this does not mean that the patient has to void before you give the dye, it simply means that at exactly 15 minutes after the dye, he has to void and empty the bladder completely. Many patients think you just want a sample of urine. Of course, as you know, that will not do. This is a clearance method, and the first 15-minute urine should contain for normality at least 25% of the injected dye. If less than 15% is excreted by the kidneys in the first 15 minutes, you will usually find that the blood-urea nitrogen is on the borderline or definitely elevated, and both are definitely bad prognostic signs. Now we go ahead and complete the P.S.P. test by taking the half hour, hour and two hour specimens. The value of that mainly is to show you that the test was done properly, since the great majority of the dye should appear the first 15 minutes, and if you get a result from the laboratory such as first 15 minutes 10%, second 15 minutes 35%, then you know something got mixed up — your specimens got mixed up or the patient didn't empty the bladder at the end of the first 15 minutes and it also tells you that since there was 50% of the dye out in the first 30 minutes, the renal function isn't as bad as the first 15-minute specimen would indicate. I always spend a little extra time explaining the P.S.P. test to the patient because if properly done — and it can be done easily in the office—I think it's the most valuable of all the simple renal function studies.

Excretory pyelograms are very useful, and Dr. Meilman has pointed out recently that these are done best, or better, by taking a film at three minutes from the time of the completion of the injection of the radiopaque material whatever it may be, because you may find that there is a *delay* in excretion of the dye in one kidney so that the pyelogram may not appear first on the bad side; though just to foul you up, it may, when it does appear, say in five or six or eight minutes, be much more concentrated on the *bad* side and therefore, your inclination would be to say that the bad side is the good side. You won't make this mistake if you take an earlier excretory pyelogram and Dr. Meilman thinks that three minutes is about the optimum time for this first film. If the dye has definitely appeared on one side and not on the other, then this is suspicious of a retarded, or deficient blood flow on that side, even though when it does appear later it may appear more concentrated on the opposite side. As you know, when there is an obstruction to blood flow through one kidney that kidney may concentrate the urine very highly — this is the basis of the so-called Howard test. I won't go into that any further. Chest film and fluoroscopy are mainly to rule out congestive failure and to get an estimate of cardiac size — electrocardiogram is for the same reason mentioned last.

Now there is another way that these patients should be classified, and that is on the basis of their course and prognosis, because after all, a pretty good dictum in hypertension is that it will continue to do what it has been doing, at least without any sudden change, unless you have the appearance of the malignant state. A patient who has been getting along well for the past five years with a known blood pressure and has still the same blood pressure will probably do about as well during the next year, barring an accident. Now accidents *can* happen, and I'm thinking of cerebral vascular accidents and coronary accidents, but barring those, or the onset of the accelerated or malignant phase, you can usually tell what hypertension is going to do by what it has been doing.

Most of the cases fall into what we used to call "benign" — we're trying not to call them "benign" anymore, because they do cut 20 years off the life expectancy, reducing life expectancy from about 72 to 52 in untreated patients. But the course is usually long — a 20 year course, and always more than ten years on the average — unless it goes into the accelerated phase which partly at least is associated with a retention of salt and water. Many times we feel that the accelerated phase is kicked off by either one of two mechanisms or both in combination: one, the onset of subclinical congestive failure; two, some severe psychiatric or psychological stress or strain with emotional anxiety or feelings of neglect.

Now a second way that we can classify hypertensive cases is by what we see in the repeated examinations that we have made. We may have a completely uncomplicated hypertensive — a woman, 34, a little overweight, blood pressure 190 over 110, eye grounds even may look normal — nothing to go with it except the elevated blood pressure. Frequently, however, there is a family history as I will stress, but more often, especially if the disease has been present more than a few years, complications appear, which can be picked up in the fundi, in the heart, aorta and main branches, brain or kidneys. These are the vulnerable areas, and the fundi give us some estimate of what's going on in the brain. Therefore, we're careful to grade the eye grounds. Heart size is important as I've already mentioned, as is the electrocardiogram for left ventricular strain pattern, etc. The renal function I don't wish to overstress, except that it is such an important prognostic sign in treatment and during treatment, because if you have a patient who develops renal failure and nitrogen retention, it is usually bad news no matter what you do, although you should still try, as I will show you later.

Now to run through what we do know about the pathogenesis of this disease from the standpoint of some of these factors. We know that the kidneys are important, and undoubtedly, renal disease is primary in some of them as I've already said, but it's doubtful if renal disease is primary in most patients with essential hypertension. When we are sure it's "essential" we don't call hypertension renal, but what do we call it until we discover that it is renal? We must call it "essential"; and we have many cases now in whom we have changed the diagnosis from the standpoint of pathogenesis from "essential" to "renal." For my money clinically there's no way really to tell them apart unless you go after the renal component by careful studies of the types that I've mentioned. But it's doubtful that most patients with essential hypertension do have primary organic renal disease, because hundreds — literally thousands — of renal biopsies were taken by Dr. Smithwick and other surgeons who were doing sympathectomies, and the renal tissue in these cases was normal in many of the patients, and minimal in most of them until fairly late in the course. So it's very difficult for me to believe that organic renal disease sets off most essential hypertension.

Now many people have projected that some renal malfunction or dysfunction is responsible, such as an excessive neurogenic response to stress or strain, or, as Dr. Smithwick feels, a hyperreaction to the upright position — you remember I said the diastolic pressure tends to rise when the essential hypertensive stands up. Whether it is emotional, postural, or a combination of all these stress factors, we don't know, but it seems that renal vasa constriction may occur as a neurogenic response to an excessive degree in many patients with essential hypertension. This would result in a decrease in the renal blood flow and an increase in the filtration fraction. Eventually there is also a structural change appearing in the kidneys that the pathologists call nephrosclerosis, and this is mostly seen in the arterioles and small arteries as thickening. I'm not talking about the type that you get in malignant hypertension — namely, the necrotizing arteriolitis with an inflammatory component. What I'm talking about is a structurally visible thickening of the arteries and arterioles, which also seems to be attended by reductions in renal blood flow and increases in filtration fraction.

Now as to neurogenic or psychogenic factors, whatever we should call this component, I am convinced in my own mind that the typical familial hypertensive is an apprehensive, anxious person who reacts more. You remember that Mrs. Gummidge "felt" things more in *David Copperfield.* Such people react more. I'm not sure they actually feel things more, they *say* they do, they say the cold test, for example, is so cold that they simply cannot stand it, and maybe that's true — certainly on the cold test they do have an extraordinary hyper-reactivity of the blood pressure. If you put one of their hands in ice water, hypertensives as a group will raise their blood pressures much more than normotensives. However if you put these people to bed, as the rule, within a week their blood pressures will come down, and many times will come down to normal. I believe that these really are hypertensives — although there are those who will say that they're not really hypertensives. Well, that has to be your own decision. I believe they're hypertensives, because many times they have all the other signs, — or symptoms *and* signs of hypertension, such as enlargement of the heart, eye ground changes, reduced renal blood flow of the type I've been talking about. Yet on bed rest frequently these

people's blood pressures will come to normal. If you potentiate that bed rest by sedation (heavy sedation as with sodium amytal) they will do this acutely, overnight. Now that is important from the standpoint of therapy. In other words, it is a good prognostic sign for the use of hypotensive therapy, if during bed rest, or a sedation test, the blood pressure comes down essentially to normal. Contrariwise if the pressure won't come down on rest, reinforced with heavy sedation with sodium amytal, then it is a bad prognostic sign for the use of drugs, though not necessarily hopeless. I feel good when I look at the sedation test and see the blood pressure has come down, let's say to 130 over 90 or 80 during the night while the patient is asleep. You know, the Russians are very much interested in whether essential hypertension isn't really a conditioned reflex — they are very inclined to worship Pavlov and his theories — and they have done some interesting studies in that regard which would tend to support this theory. I don't have time to go into them in any further detail here.

It is true that many hypertensives even with the type of superficial psychotherapy that I am able to give — this is certainly not analysis or anything like that — do tend to moderate their blood pressures. One of the main uses of the tranquilizing drugs, such as reserpine, is that it does this much easier for me and much more certainly; and believe me, with much less outlay of my own time and emotional effort than trying to do it solely with "psychotherapy." Many psychiatrists can reassure patients, and when they do the patient's pressure comes down. I've told my wife that *my* psychotherapy means draining off my own emotional stores of security into the patient, and that when it's over the patient feels good and I feel as bad as the patient did when he walked in.Be that as it may, this is one of the measures that may be helpful in the management of hypertensive patients, and certainly I am happy to admit that the total management therapy-wise of a patient must include psychotherapy of the type that I think any doctor can give; it is mainly reassurance, they apparently need it, and I think it's our duty to give it to them. I always potentiate it, if you will, with judicious doses of one of the tranquilizing drugs.

Now what then can we say about the family factor in essential hypertension? There have been a number of studies, and I shall cite only a few, which to me make it perfectly obvious that hypertension or a tendency thereto is a familial trait. This disease does run in families, there's no question about it. It may not be the same trait as the arteriosclerotic trait. Certainly the news seems particularly bad when you have both traits in an individual, but I am convinced that hypertension is a familial disease. It develops like diabetes in many patients, relatively late in the patient's life, but if you will take a careful family history in essential hypertension, it is almost always positive. Dr. Longcope at Hopkins said, "Don't ever say 'always' in medicine, and never say 'never' in medicine." Just as sure as you do somebody will say, "Well *I* had a case."

We have Ayman's studies in children, and he took seven hundred and eighty children whose parents and grandparents, incidentally, he had studied very carefully. He also has done this in twins, identical twins, and so on, and even in some triplets. I won't take you through all that, but simply will say that of 32 children whose parents had definitely normal blood pressure, only one had what he regarded for a child as the upper limit, the very upper limit, of normal. If that isn't very significant, the next figure is. Of 55 children whose parents *had* marked hypertension, 25 (none of these children was older than twelve) had blood pressures greater than 150 over 90. He concludes that hypertension is a hereditary disease. Now I've dodged that term "hereditary" by calling the disease "familial." I say that a child is born not only of the family but also *to* the family, and that he picks up the family traits and behavior patterns. But I think that Ayman feels that essential hypertension is definitely a Mendelian hereditary trait.

Platt in England tackled this in a different way. Of hypertensive patients with a positive family history, six out of the seven on complete study (six out of seven — there were more than seven — but six out of seven proportionately) had essential hypertension. Now of those hypertensive patients who had a completely negative family history for hyptertension, three out of four definitely had some other disease than essential hypertension. Or take his cases of unilateral renal disease proven by every method to be

present in only one kidney. Of course we are all prone to fall into the error of believing that if a patient has unilateral disease and hypertension, then the hypertension must be due to the unilateral disease, because we know it *can* be. Platt however shows us that that isn't necessarily so, at least on a treatment basis. Of 23 patients who had unilateral renal disease — only one of eleven with a positive family history was relieved by taking out that bad kidney — only one of 11, less than 10%, *versus* eight of twelve who *were* relieved but had a negative family history. It is therefore of great practical importance that you should question your patient on this point; namely, does *anybody* in his family have high blood pressure? Did his mother have any trouble when she was pregnant? Did his father have a stroke? Are his grandparents still living, or at what age did they die? Now if they died at age 85, all four grandparents, and his parents are still living, then the familial factor, even if he has a trait for hypertension, isn't a very serious one, because the total family history takes precedence.

Now what are we thinking of along the line of treatment? What justification, what possible justification is there for merely, as some of our opponents in this field put it, making *yourself* feel better when you see the blood pressure come down, by the use of drugs? Well, we believe from such data as I've given you and much other that is available that there *is* a familial trait, and perhaps it's a truly hereditary gene towards excessive hypertensive responses to stress. Dr. Caroline Thomas has shown this to be true in the medical students at Hopkins. Anything she had the "familial hypertensive" students do, such as take an examination, merely stand up, or walk around — the "prehypertensive" students whose familily have hypertension as a definite finding — caused them to hyper-react, that is, their pulse rates went up more, and their blood pressures went up more. Thus, they reacted more through the cardiovascular system. I think it's not inconceivable that there are many "breeds of cats" around, some hyper-react to stress through their gastrointestinal systems either with excess production of acid or with diarrhea, while hypertensives hyper-react to stress through their cardiovascular systems. In that excessive reaction there may be central and autonomic nervous system participation, renal participation and endocrine participation, of which I've already spoken. Perhaps under stress the endocrines really do (as many people believe) pour out more corticoids in hypertensive individuals, or more of whatever produces hyptertension, than they do in normotensive individuals. Certainly, sooner or later vascular disease gets established. I have told you some reasons for my believing that this vascular disease is usually secondary, not primary. Whichever it is, finally vascular disease, especially in the kidney, begins to contribute to the establishment, the aggravation and perpetuation of a vicious circle. Once a patient has renal vascular disease in the small renal arteries or in the large renal arteries, he has a self-perpetuating mechanism; this is well proven in animal experiments.

Under these various mechanisms, there is a gradual establishment of a higher base level for the homeostatic protection of blood pressure. A normal person protects his blood pressure at 120 over 80. Hypertensives are not "set" at 120 over 80, they are set at a higher level, and they will react just as violently as a normal person when their pressure goes lower than its setting, to get it back up. (They will also react if the pressure goes higher than its setting, to get it back down.) It seems as if the "barostat" in these hypertensive people is somehow set higher; as you would set the thermostat in your house higher, so that the heat comes on and goes off depending upon the setting and nothing else. At least this is an attractive hypothesis and there is much clinical evidence in support of it.

Now hypertension, whatever it is due to, remains reversible or "physiologic" until gross vascular disease, especially in the kidneys, becomes well established. "Reversible" simply means the ability gradually to re-establish lower barostatic settings, or lower "acceptable" and "accepted" levels of blood pressure in a hypertensive individual. That's what I mean by "reversible" — that the blood pressure *will* go down, and the patient will suffer no ill consequences; he doesn't collapse, he doesn't feel weak, he doesn't faint, he doesn't seem to have ischemia anywhere.

The main categories of drugs for hypertension include the tranquilizers such as the Rauwolfia drugs; Veratrum, which still has some use in older patients; Hydralazine or Apresoline; the Chlorothiazide group of diuretics; and the

blockers – and we should not speak of "ganglionic blockers" now because we are getting new blockers that don't block ganglia but block only adrenergic responses. I'll tell you about them later, and simply say now that we think they are better than the ganglionic blockers. However, on the blood pressure they have the same effect – they block the adrenergic impulses and they do cause postural hypotension. Fortunately they don't cause constipation, bladder dysfunction, eye dysfunction, which are all dependent on cholinergic responses, because the cholinergic responses are *not* blocked by the adrenergic blockers. We'll come back to that later.

People say, how do you pick your cases for treatment? Well, you don't. You just try it out on them; but you ought to have some idea in your mind as to what is a favorable case, because many times the patient or his family wants to know. Doctors as a group tend to forget that one of their very important functions is making a prognosis. A patient can accept the fact that he is ill, but he would also like to know, "What's the outlook; how am I going to do?" He's entitled to know this, if *you* know it, and the only way you can know it is by amassing experience. For example, if he has severe organic vascular disease in the kidney, with uremia, then it's bad news for a hypertensive, and the greater the uremia and the poorer the renal function, the worse the news is, no matter what you may do. Now you *can* lower the blood pressure in many of these patients, but as soon as you do that the uremia gets worse, apparently because they need an elevated blood pressure to get the blood through the kidney and filter out the nitrogenous wastes. So you are frustrated, and there's nothing more frustrating than to be in a therapeutic corner where you cannot move out; when anything you do seems to make the patient worse and you have to leave him alone except to give minor symptomatic drugs. The second great area where vascular disease is bad news, but not to be compared with the renal area, is the cardiac. Patients can have enormous hearts, can even have bad coronaries, which is a much worse factor than enlargement, and still do quite well, if you can really take the load off the heart by lowering the blood pressure, and provided, in the coronary cases, that you can slow the pulse rate in the bargain.

Third, cerebrovascular impairment is a very grave clinical sign, but prognostically not nearly so serious, because you must assume that with treatment you're going to lower the pressure and tend to lessen the danger of strokes which in many hypertensive patients are hemorrhages, not thromboses. Certainly cerebrovascular disease puts urgency on the case for treatment, but it doesn't have nearly the poor prognostic significance that renal insufficiency has. Fourth, severe retinopathy usually goes along with renal disease and cerebrovascular disease, and we used to think it was a pretty bad sign to have papilledema: one year of life was the prognosis. This is no longer true. We have many, many patients who have gone well over five years after having papilledema. This has been substantiated everywhere. Papilledema *per se* is a serious sign, and papilledema means that you should treat; but papilledema with good renal function, good cardiac function and nothing of importance in the central nervous system, is nothing to get terribly alarmed about today. You know that things are going to deteriorate rapidly if you don't treat, but you *are* going to treat and hope to avoid the deterioration.

If the patient's age is over 50, you feel two ways about it. He's gotten to 50, and he's a pretty well-established hypertensive, especially if his disease began during the 30's. I don't say it's bad, I don't say it's good, but if the pressure is high and the patient is over 50, you're a little restricted in the line of treatment. The vascular system has gotten adapted to the hypertension, organic vascular disease is already established and the reversibility is less. You treat not quite as urgently, although definitely.

Men, as the rule, do poorly with hypertension – women have it twice as often, but they do twice as well. Therefore, if the patient is a male, has a positive family history, and is obese (unless you know you can get that weight down, and I never know) these factors *per se* are bad prognostically. The level of the pressure, if you put your eye on the diastolic, *is* helpful, but if you put it on the systolic, it is not very helpful, especially in people over fifty, many of whom will have wide pulse pressures, such as 210 over 90 or 80. The latter, in my book, certainly is *not* hypertension. It is arteriosclerosis with a water-hammer pulse due to stiff pipes.

If the blood pressure refuses to fall, especially on bed rest and/or a sedation test, we don't like

it prognostically. If you start off with a low pulse rate when there is no failure it is less favorable; or turn this around, if you start off with a *fast* pulse rate in a relatively well young woman, that is, only a tachycardia and a blood pressure 230 over 120 — it is favorable. I can usually get such a pressure down, especially if I can slow the pulse rate — (I think it's often a manifestation of anxiety) — and I lessen the anxiety with a tranquilizer coupled with a moderate vasodilator. Such young women usually do well; after all remember, they're women. Women often do well whatever *you do*. They certainly do better than men with the same degree of hypertension.

Now how do we know that *any* drug is any good? This is the question that comes up most often, and believe me, it is the most painfully difficult question to answer, because it takes so long. Hypertension is a very chronic disease. Nothing less than months of observation, or at least a few weeks, means anything significant in alterations of blood pressure. So you have to take a patient and put him on a placebo for 10 or 12 weeks. Then you put him on Rauwolfia for five or six weeks. Then you control that with an equally ("equally" you *hope,*) sedative dose of phenobarbital as a placebo. You then try substituting reserpine.

Nothing ever happens suddenly with an oral Rauwolfia derivative; it never did. Pulse rates tend to go down with them and to come up with phenobarbital. This evidence has to be slowly accumulated, and shows that Rauwolfio drugs are hypotensive — although not powerfully hypotensive unless they are given parenterally. I want to stress here that reserpine given parenterally is a very potent hypotensive drug, but by mouth it isn't — it's a slow acting, bradycardic, moderately hypotensive drug that causes nasal congestion. A patient can usually learn to tolerate the nasal stuffiness, especially in a climate like you have here. It is said to be due to vasodilatation of the turbinates. Vasoconstricting drops help it considerably.

Occasionally a patient on a Rauwolfia drug in the usual doses has bad dreams, a symptom of overdosage. These may be nightmares, sometimes fantastic dreams along with nasal congestion, and sleepiness in the daytime. In this case the dose should be omitted for a week, and then be resumed in one-half the previous amount, if at all.

Most of our cases are complicated. They're usually sent to us because some other doctor has said, "I'm not getting anywhere with therapy; will you take over?" For example, a "malignant," with grade four eye grounds, practically ready to convulse with enecephalopathy, comes in. Here is where the very potent hypotensive effects of intramuscular reserpine in a 2½ mg. to 5 mg. dose can be utilized. With it we give if necessary an intravenous blocking drug. The dose of the blocker must be very small in such cases — 5 and 2½ mg. of hexamethonium, say, for remember that the encephalopathic patient is exquisitely sensitive to blockers. We don't use the blockers now as much as we used to. We're relying more on intramuscular reserpine, and if the patient is not able to take anything by mouth we can give parenteral Chlorothiazide to potentiate the reserpine. We want to get the pressure down quickly; that's the important thing in the encephalopathic patient. Later we shift over to oral doses, and then to chronic oral therapy, which is continued as necessary indefinitely.

I want now to mention the peripheral adrenergic blocking agents. Ciba, and Burroughs Wellcome have both brought out a new adrenergic blocking agent. Burroughs Wellcome's is called "Darenthin" and is available in England. It's also available here for experimental use. Ciba's drug is named "Ismelin," or Guanethidine. Now these drugs are exceedingly interesting. We think — perhaps it's because we've had more experience with it, that Ismelin, the Ciba drug, is easier to use. The dosage range is much narrower, whereas with the adrenergic blocker of Burroughs Wellcome — Darenthin — the dosage is more widespread such as you get with hexamethonium; it can vary 25 times in different patients and in the same patients. So we're not quite as happy about the dosage range of Darenthin as of Ismelin, but Darenthin does not have quite as much stimulating effect on the bowel. Both of these drugs are "sympatholytic" only. They do not block the parasympathetic cholinergic nerves, so you tend to get cholinergic *hyperactivity*, a little extra salivation for example. The most disturbing side effect is what the patient will tell you is diarrhea, but it is usually not diarrhea, at least not a watery diarrhea; it's rather a number of explosive stools a day instead of one, or maybe one every other day as previously. The patients usually get used to this on Is-

melin, and I don't think for many hypertensives that it's a bad thing. Many hypertensive patients pay a lot of attention to their bowels anyway, and an adrenergic blocker usually straightens out their constipation. Ismelin is a very useful agent, but it occupies the same position in our scale of values — in our system of giving drugs— as any blocker; it's the last thing to try. In my opinion, a blocker is the last thing to try, because it will at least cause postural hypotension. I'm sure you're going to hear very much more about these new adrenergic blockers, that's why I'm telling you about them even though they're not generally available now. I believe they will soon become available.

We think, now, that these two drugs are better than surgery for unilateral renal disease, or perhaps I should say this differently — better than surgery on one kidney which is the worse of two diseased kidneys. Formerly in such cases when we had two diseased kidneys, one practically normal and the other one practically useless we used to take out the relatively useless one. We are not doing this any more at this time. We are treating them with Ismelin and the patients seem to do just as well and perhaps even better than on nephrectomy. You know that the urologists have told us for a long time, "Don't take out a kidney except for urological reasons; don't take it out for hypertension, because you won't, statistically speaking, do too much good. So, unless it's clearly a useless kidney, leave it in." The second thing is, a kidney taken out is a kidney taken out, and you cannot put it back. Such people frequently need renal mass, so we no longer take out the worse, even the considerably worse, of two diseased kidneys. We leave them both in, and we're treating them successfully so far with the adrenergic blockers.

As to the use of diuretics: there is no question — believe me, I am trying not to be too dogmatic — but there is no question that Chlorothiazide, its derivatives and its related drugs gave us a strong new ally, a new tool, in the treatment of hypertensive patients with drugs. They potentiate the effects of all the other drugs, and very powerfully in some. They potentiate the blockers most powerfully. So what we do in the kinds of cases I was just telling you about, even when renal hypertension is an important component, is to put the patient first on Chlorothiazide, — that is, we don't put them on Ismelin first. Rather we wait and see if they need a blocker, because any blocker, remember, introduces unpleasant blocking effects — such as postural hypotension. We also use Chlorothiazide to potentiate such a blocking drug. For Chlorothiazide is a very strong potentiator, but in about one-third of the cases it will produce a very good hypotensive effect alone. It is true that we don't usually give it alone. We usually give it in combination with other drugs, starting off with some of the milder ones, such as reserpine; especially if the pulse rate is rapid, we try to get the pulse rate down. If reserpine doesn't work, we may go to Apresoline or one of the other renal vasodilators. Incidentally, drugs are coming along so fast in this field now that it's impossible to keep up with them. We have some new drugs which we have wanted for a long time to substitute for Apresoline which certainly has some undesirable side effects. For example, it can produce angina — Apesoline usually races the heart. If you give reserpine and Veratrum in advance you tend to offset some of the racing, the tachycardia, caused by Apresoline. Our standard dose of Apresoline is 50 mg. four times a day, rarely more. Even in this dose, however, it can cause angina, and if it does, we stop it.

One of the most frequent questions that's asked me is, "Do you ever do a sympathectomy?" Well, Dr. Smithwick, who is in our hospital, was doing sympathectomies at the rate of one a day in 1948. With the introduction of the hypotensive drugs it began to fall off. In the past year he has done about 10. How did he happen to do those? Most of them were done during the course of an exploratory laparotomy in the renal-adrenal area in patients whom we could not seem to control, and were suspicious that the patient had either an adrenal tumor, or unilateral renal disease, or renal arterial obstruction, or something peculiar. So Dr. Smithwick explored and in his expert hands, nothing was found. At operation, since the sympathetic chains were exposed, he then did a limited splanchnicectomy. That certainly doesn't hurt a hypertensive patient. I am not convinced that it makes the patient very much easier to treat, but I am certain that it does not make him any harder to treat — that is a limited splanchnicectomy. Occasionally such a splanchnicectomy will work as a hypotensive procedure. In a few cases it's brilliantly satisfying, but this is so uncommon that I don't like to recommend it. But a failure after a splanchnicectomy can be turned into a

success, and Dr. Smithwick has had many such cases, by the mere addition of Chlorothiazide, in *small* doses — for example, 250 mg. a day. Some splanchnicectomized patients will respond to only 62½ mg. a day of Chlorothiazide. That's a *quarter* of one tablet!

Now how do we begin to manage a patient on the background of this kind of information? What can we do with drugs? Well, there's no use kidding ourselves that we have got a *specific* drug in any of the hypotensive drugs, with the possible exception of Chlorothiazide. The reasoning there is this: Chlorothiazide does not cause hypotension in normal or normotensive individuals. To my knowledge it's the only one of the hypotensive drugs that doesn't do so. All the rest do lower blood pressure in normal people just as they do in hypertensive people. Chlorothiazide does not — is *not* hypotensive in normotensives. Then how does it work? A lot of people thought it worked by depleting salt from the body and by decreasing the blood volume. This has been disproven. It's now generally agreed that there is some other effect of these diuretics in the hypertensive, and only in the hypertensive. What it is, we really don't know. Salt has something to do with it. Certainly sodium can never be gotten out of the hypertensive argument any more than the kidney which handles the sodium can be gotten out. But we do *not* think that the mechanism of action of Chlorothiazide can be explained solely by its salt effects.

We believe that if you're going to use hypotensive drugs successfully you have to feel that reducing blood pressure is helpful. If you don't believe that, then in my opinion, you'll be using drugs needlessly merely to lower blood pressure. You have to have a basic philosophy about this. However, I don't believe that you can even *try* this for very long with an open mind and not be convinced that it is helpful, because of what your patients will tell you, if only from their subjective appraisal of their symptoms without knowing what their blood pressures are. Frequently they will say, "I didn't know I was feeling bad until I began to feel better." And the most common thing that women tell me is, "Doctor, I hope I haven't done wrong." "What is that?" "Well, I felt so good I just had to clean up the whole house. I hadn't cleaned that house for two or three years, and I'm afraid now that my blood pressure is way up." Most frequently the blood pressure is not up at all, it's farther down, so that this is really sympomatic improvement. I believe that lessening of fatigue of incipient heart failure which lowering the blood pressure relieves is what helps them. But if you don't believe any of this, then don't use the drugs. Or, if you're going to use the drugs, use them only with an experimental attitude, to see if there's anything in it.

Certainly combinations of hypotensive drugs are more active than any one drug used alone. If you're going to be a purist and say, "I will use only this, or only that" you will not get nearly as good results as if you'd bend a little and say, "I'll use drug number two if number one doesn't work. I'll even add two or three drugs together, but I will try to drop out any drug if I can show that it is not really contributing anything." Many times you will be convinced that a drug does contribute something and that others don't contribute anything. Naturally you retain only those that contribute something.

Now you don't *cure* hypertensive patients with drugs because if you stop the drugs the blood pressure goes up again. In fact, with certain drugs, particularly the blockers and to a lesser extent the diuretics like Chlorothiazide, the blood pressure will *overshoot,* or go higher on stopping them, and this is a very dangerous thing in a touchy hypertensive. Most of the bad cerebral accidents that have occurred in hypertensive patients on strong antihypertensive treatment have occurred when it was stopped immediately, or within two or three days. Say a patient runs out of a blocker and has a cerebral accident. It has happened. So you should caution the patient, "Don't run out of your pills. Don't go away and forget them." (Or any other excuse they can think up to stop medication, and believe me they can think up plenty.)

Less treatment is necessary to hold the blood pressure down than to get it down, and this is one of the most reassuring things, philosophically, to me, and financially to the patient. These drugs are not given away, they cost plenty. And it helps the patient's morale to have to need less. One of the questions they will ask you is, "Do I have to take drugs forever?" It helps me and them to be able to say honestly, "No, not *all* of them, *forever.* Perhaps *something* forever, perhaps a *little* forever, unless we learn more than we know now. But we do know that if you will

keep your pressure down for at least a year, then you may be able to decrease the therapy."

Incidentally warm weather is synergistic with hypotensive drugs. So is a warm bath, or a fever. So you should tell your patient, "If you take a warm bath and you're on drugs, particularly on a blocker, don't stand up in the tub suddenly, you may wake up to find yourself with a gash on the back of your head." This has happened to patients who have fainted in the tub from suddenly standing up with blockers aboard, in a warm bath. Patients taking these drugs are very susceptible to postural hypotension. You can and you should decrease the medication, (we do always) in warm weather. We also watch out in the fall, around October, say, to see whether a little increase in dosage may or may not be necessary. Blockers are less used today than formerly, even including the new adrenergic blocking drugs, which may cut out a little niche for themselves in the management of the renal hypertensives, as I have said.

You and your patient must be persistent if you are to succeed with drug treatment. If you're going to give up easily, don't start at all, because this is a *chronic* management problem, and you must tell the patient that this is what he must expect. You must treat for a long time. Now when do you treat? You treat whenever *you* think that the patient is going to do badly if you don't treat. And that presupposes you know a lot about this patient — a lot more than just his blood pressure.

Finally as I tried to emphasize, each patient with hypertension is different. When a person, or a physician comes up and says, "I know a patient whose blood pressure is 190 over 114; how would you treat that patient?" I always answer, "Well that depends. It depends on the sex, the age, the duration, the family history, the course, the kidneys, the eye grounds, and unless I know these factors at least, I simply cannot say. I cannot judge by the blood pressure alone." "Do you treat the old lady who has a blood pressure of 210 over 80?" No, not for *hypertension*, I don't.

We *must* individualize each case and take time, take plenty of time, to study and evaluate the course. It helps you to know that a hypertensive keeps on doing pretty much what he's been doing. If he's been getting into congestive failure, he'll be getting into more congestive failure. You do have to treat symptomatically, and psychotherapeutically, if you will, to reduce irritations, to try to get a patient into a line of work or line of life that's a little less trying on him. Certainly *I* feel strongly that you should try hypotensive drugs, and if you haven't, I think the way to start is with some of the milder ones, like reserpine, watching out for slow accumulative effects — patients can get depressed on reserpine — but if you continue to bring the dosage down, and this may be to less than one-tenth of a mg. of reserpine a day, you can avoid unpleasant sedative effects and still retain some of the hypotensive effects. If you'll try it, I think you'll often be successful. But then if it doesn't work, retain it and add something to it. Combinations are always better. And finally if I have one admonition, it is this: if you're going to embark on this with a patient, you must do it with a determined attitude. You must say and mean it, "We're *going* to get your pressure down."

In conclusion I'd like to tell you about one patient. She illustrates all these points. Practically everything that you could do to a hypertensive, we've done to this one. She's a young woman. She had had toxemia of pregnancy with her last pregnancy, but she didn't really have a sustained blood pressure until she was about 44 when I saw her, just premenopausal. She had an extremely high blood pressure around 260 over 160, and her story was that since childhood when she had had a nasal injury, she had a great deal of trouble with her nose, and had practically been drinking quantities of one of the strong vasoconstrictor nose-drop preparations. Now, I don't know that that had anything to do with it — I don't think it did. It was probably a red herring. We brought her into the hospital and I began to treat her. Believe me, I treated her with every trick in the bag and I finally decided (and this *is* sometimes a good lead), "This patient just doesn't have essential hypertension." We looked very thoroughly for primary hyperaldosteronism, naturally for renal hypertension, and we couldn't find anything diagnostic. But we were suspicious enough that we subjected her to an exploratory laparotomy. Dr. Smithwick did it, and I have full confidence that if anybody could have found what was wrong at that time, he would have. He said the kidneys were both pulsating, the arteries were pulsating, he couldn't find anything wrong with the kidneys. The adrenals looked as normal as any adrenals he ever saw. There were no tumors anywhere. There was nothing obviously wrong with her. He there-

fore did a limited splanchnicectomy.

The woman was just as hard for me to treat afterwards as she was before the operation. She still did not respond to the ordinary combinations, in good doses. Now because we were doing some experimental studies with the new adrenergic blockers, I began to try them on her with more success, and she finally came back at my insistence (and I'll tell you why I insisted) into the hospital for studies. She had developed some intermittent claudication of one leg, and it was pretty clearly intermittent claudication in a *young* woman. On feeling of her pulses in her feet, Dr. Wright, I found that she didn't have any pulses in her feet. She had one good femoral pulse. This tipped me off that this woman, for some reason, had vascular disease — probably arteriosclerotic vascular disease — and I thought if she's got it in her legs, she may have it in her kidneys. Now remember that we had done a complete work up and that Dr. Smithwick had had the kidneys in his hands one year before. We did a new pyelogram and now one kidney was definitely smaller, and the other definitely bigger than it had been a year before when she'd been in the hospital. We then put her on Ismelin (I think Darenthin may have worked as well) in combination with the other drugs. She's now running a perfectly normal blood pressure. She has still got both her kidneys — one kidney is not functioning too well and it's smaller — and it probably has pyelonephritis. Her total renal function, however is good, exceptionally good.

Therefore we assume that she has a very good kidney on the good side, and we won't hesitate now to do a nephrectomy on the bad side if we cannot keep her pressure down with drugs.

Now what does this story tell you? If we had not persisted in that woman, I don't think we'd have ever gotten her pressure down. Nowadays we talk about the cases we fail in. This is a remarkable change in our psychology from five years ago when we loved to talk about the cases we succeeded in. "I had a case" — you know. Today it's, "I had a case who *didn't* respond, and what do you think we can do about that?" It's when you don't succeed, that you are excited; but don't give up — that's my point. You keep on trying because sooner or later you can find, even in these obscure cases, either a remediable cause or with an addition or change in therapy you can get a therapeutic success.

Finally, we sometimes get a success when we don't change a thing or find a new thing. We just *persist*. We've had some patients that we have had on therapy for two years or three years, and there's been little real response. Then something has happened and over a relatively short span, the pressure has come down an impressive amount, say 30-40 mm., although maybe not to normal. We've even seen this occur in two steps — the pressure has come down and sat, let's say at 160 over 100. I have a patient well in mind in whom that occurred. And then there was another downward step and he became relatively normotensive. When I then stopped his drugs his pressure promptly rose.

I think that it is something, putting it in a crude analogy, like a tug of war. Here is a patient who has a familial trait towards hypertension in response to — call it what you will — stress, environment, life, whatever it is, he just tends to get hypertensive. *We* are pulling the other way. If we *don't* pull the other way something in his head, probably some barostatic mechanism, gets set too high. Then when we try to pull the pressure down, that barostatic mechanism throws in a number of counteracting homeostatic responses in an effort to get the pressure back up again.

I think it's just a matter of pulling and tugging until we can get his body to accept a lower, more normal pressure. Now this idea fits, you see, with the now universally agreed observation that the pressure will frequently stay down — sometimes even when we stop the therapy — and it will stay down for months. We don't think you should ever stop therapy *completely*. We think we should continue to counteract the familial trait. We have youngsters, young people, whom we are now carrying on little doses of Rauwolfia and that's all. Now the basis for that is this. They were young, they're still young — one boy was 18 when he started. But that's all we're doing for them, say 0.05 mg. of reserpine a day. Now I have "placeboed" this boy with blank pills enough to convince me that when I let him go for six months on placebos he tends to slowly edge up to 140, 150, 160, from a low normal level—from 105 to 110 over 65. On such doses as he is taking he has no symptoms. Maybe it's all folklore, maybe it's mesmerism. However, I think that it is the maintenance of a counteracting drug, counteracting an inherited tendency which is towards essential hypertension, which I still believe to be a bad disease. Thank you!

Some Psychiatric Aspects of General Medicine

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The point still exists that those who need it most cannot usually afford psychotherapy, and frequently the psychotherapy so applied is exchanging one pill for another. Yet psychotherapy, aimed at the 'causes' of psychogenic disabilities will be far less costly than prolonged palliation of symptoms and semi invalidism.

This article may foster some awareness of "office psychiatry for the non-psychiatrist." (R.E.D.)

MR. A. B. JONES, aged 38, visits Dr. C. D. Smith, presenting complaints of longstanding. Gastrointestinal difficulties have often plagued him. Frequently they have been associated with headaches. He is restless. Sleep is a problem. He awakens several times a night and in the morning he is still fatigued — exhausted, in fact. He looks wan, weary and worried. Loss of an occasional day or two at work jeopardizes the job he has held for 11 years.

He has consulted one or several doctors during the last five years, has been on special diets, has taken various medications, had some teeth extracted, been checked by an allergist, who has found numerous sensitivities. He has eliminated sea food, several cereals and vegetables. He has no appetite anyway and suffers from constipation too.

Examination reveals abdominal sensitivity. The pulse is rapid. He is a bit emaciated. The hands are cold and there is a fine tremor.

Mr. Jones frankly admits he has "always" been a bit highstrung. He pleads for help, protests his anxiety to continue to work — and, at the same time his concern that he may be dropped — or have to quit — because the symptoms are so distressing, so disabling, so annoying, so impervious to past treatments.

Kindly old Dr. Smith gently inquires into his more personal problems, elicits that his wife is "wonderful," in fact works to augment the family income. If only he could feel better she could confine her activities to the home and children. His job adjustments are "fine". He likes his boss and his fellow employees. Well, yes, he was passed up on promotion recently, but it was his poor health that was responsible. In short, Mr. Jones' life adjustments are "flawless" except for

the stress and frustration of constant, recurrent health problems. He begs for help. He'll do anything — follow any prescribed routines — take any medication, and won't Dr. Smith please get him well — that's his only worry — to keep going — to obtain help for the constant interfering physical problems and disturbances that distract him from his devoted dedication to his job, his wife, his children. Maybe those new shots he has read about would be the answer?

Dr. Smith considers, and eliminates by reasonable checks and tests, all the possible organic diseases. He finds a bit of anemia, nothing more.

Appropriate and minimal medications and routines are prescribed to modify the more disturbing symptoms. To himself, Dr. Smith classifies the patient's troubles as neurotic. He provides a dose of reassurance, adds a tranquilizer, and becomes the patient's new supportive father figure.

This is excellent management, as far as it goes. It matters not whether Dr. Smith is aware of his father role. The patient, in all likelihood will get along — perhaps even a bit better — at least for a time. And Dr. Smith has lived up to his Hippocratic oath and to his conscience and has alleviated pain and suffering to a degree. Now he can return to the relief of the "really sick," from whom he is justly reluctant to withhold his efforts and ever insufficient time.

Yet, there is something missing, something seriously wrong here. If this patient had complained of a cough, would a cough remedy have been the proper treatment, if the cause of the symptom were tuberculosis or an early malignancy? Some years ago, when medicine and diagnosis were less scientific and specific, symptom relief was often all that could be offered. Causes were often obscure, often untreatable. Medicine was 90 per cent an "art." Now medicine is a "science." Yet many disorders even today have causes that cannot be eradicated or brought to heel by treatment. And in these, the doctor must content himself with the treatment and alleviation of the symptoms. But such superficial therapy is not to be condoned in treatable diseases, where the cause can be found and removed. It would be malpractice to prescribe calamine lotion for the rash of secondary lues.

Emotional disorders and symptoms have causes. These are not as readily found as those of some physical illnesses. There is no way to X-ray the "mind" or do air studies on the superego. But psychiatric techniques often can succeed, not only in making a diagnosis, but in treating the causes (as well as the symptoms).

In the case of Mr. Jones, psychiatrically oriented inquiry and evaluation of the patient's responses (not merely his words) by Dr. Smith, or perhaps by a psychiatrist, might have uncovered some considerably crippling and painful psychic causes for his complaints. His wife worked, yes. She didn't complain, no. But she had grown cool, aloof, indifferent. She was a good mother — always attending the children — in fact, to the exclusion of their father. And at work — there too, he was just tolerated — often felt ignored. Of course, the patient doesn't see the implication of these reluctantly expressed admissions. He cannot admit to himself — not now — and perhaps not until some several hours of patient discussion have created empathy and confidence in his mentor, and have lessened his anxiety and panic over realizing his, to his ego and the world at large — unacceptable and terrifying sense of inadequacy and insecurity. But in this awful threat may lie one "cause" of his escape into symptom-consciousness, and a cause of his inept and pathetic struggle to get sympathy and approval through sickness and perhaps eventual invalidism, from a wife who is losing her illusions about his competence as a man.

There is a second flaw in Dr. Smith's evaluation of Mr. Jones. The tacit diagnosis of "neurosis" is equated, to a degree at least, in the good doctor's mind with "nothing wrong." This appraisal is a gross error. Mr. Jones' discomfort is, granted, not due to organic disease. His symptoms, though troublesome, do not spell physical disaster or doom. But "only" functional is an evasion of reality. For what more miserable, indeed frightening and devastating condition can be named than one which subtly and unconsciously so suffuses a man that his life is an existence, a chronic, drudging, fearful, insecure groping for straws; a secret, indeed unaware flight from some threatening self-realization. We may grant, if the patient is so intensely harassed by symptoms which are painful and discouraging — even frightening — yet doggedly clings to them, denying all other difficulties, that their emotional causes, thus camouflaged and denied,

must be even more terrifying and excruciating. How then, can one say "only" neurotic, when not merely some part or organ in the body is sick, but indeed the whole person.

Perhaps Dr. Smith is right in the case of Mr. Jones. Perhaps palliative and supportive therapy are the best, since Mr. Jones may lack the intelligence or ego strength to be helped through explorations, often lengthy and costly, of his emotional patterns, his unconscious general and specific attitudes toward self and environment and his reactions to past and present stresses and frustrations. But Dr. Smith might be abandoning Mr. Jones to years of emotional invalidism — a life of pathetic, half-blind muddling through misery, self-deception and anxiety. It would be better, nay, it is imperative, that Dr. Smith, having made the diagnosis of neurosis, assess the patient's emotional and intellectual potentials and, if he feels there is the slightest possibility that Mr. Jones possesses some strengths, find ways of helping him discover and understand the *causes* of his symptoms. Often this is beyond the doctor's interests or available time. If so, then, with tact and patience, he should help the patient accept the advisability of consulting a specialist in the field — the field of emotional or "psychosomatic" disorders — psychiatry.

Recent issues of "Life" Magazine have run a series of thoughtful and thought-provoking articles on the present day relationships between medicine and the public. In these there has again been stressed the tendency of modern medical men to overlook the emotional aspects of all illnesses.

"Life" quotes Dr. Edward Weiss, Professor of Clinical Medicine at Philadelphia's Temple University: "In one-third of the (series of 200) cases, organic disturbances appeared to explain everything. In another third, organic disturbances were present, but symptoms were out of proportion to the cause(s). And in the last third, the illness, while real, was emotionally induced . . . If impersonal tactics of 'organic cause and effect' medicine were relied on . . . at least one-third of the patients would not get the help they needed."

The doctor's devotion, with interest and ardor, to the care of those with "real illness" is not good medicine if it involves misdiagnosis and consequent inadequate treatment of causes, either organic or emotional in over 30 per cent of his practice.

The epithet "just a neurotic" may console the doctor's conscience and relieve his unconscious anxiety over some secret or subconscious inadequacies of his own. But what happens to the patient so labeled? All too often he wanders from doctor to doctor, clinic to clinic, because no blood count, no X-ray can detect his pathology. His "existence" oozes on at a sub-"living" level until senility and death.

Let it then be once again stated that the doctor's duty is to the "whole person" of the patient. To discharge this duty fully may indeed cost the doctor time and money. But the exploration (within reasonable and pratical limits) of the patient's social and domestic history, as well as the medical history, is essential in no less than one-third of his cases. Such "prying" may cause uneasiness in the patient (and often in the doctor). It may elicit the kind of denials and overprotestation of symptoms illustrated in the case of Mr. Jones, in which case, it is hoped that the doctor has the perspicacity to read between the words and has the tolerance to refrain from condemning the patient as a conscious liar. But it may well become a rewarding and enlightening experience to cultivate techniques toward more complete and competent diagnosis and toward treatment of this considerable segment of the doctor's practice.

American medicine has a proud and lofty tradition. Its advances have benefited mankind throughout the world. Mortality has dwindled, life expectancy lengthened. But there is justification in the arguments of those who would socialize American medicine, that doctors no longer have the "personal touch" with their patients anyhow, so why not arrange for the financial "benefits" of socialized medical care.

Doctors individually (if they are to remain "individuals") must meet this argument. I know of no better bulwark against socialization than the cultivation of the awareness of the "person" in the body of the patient; and of an objective awareness of the "reality" of emotionally determined suffering. For the ancient duty to prolong existence and alleviate pain is no longer enough. The patient deserves to be helped to "live". And that is what every third patient is asking for, even though he may not know it.



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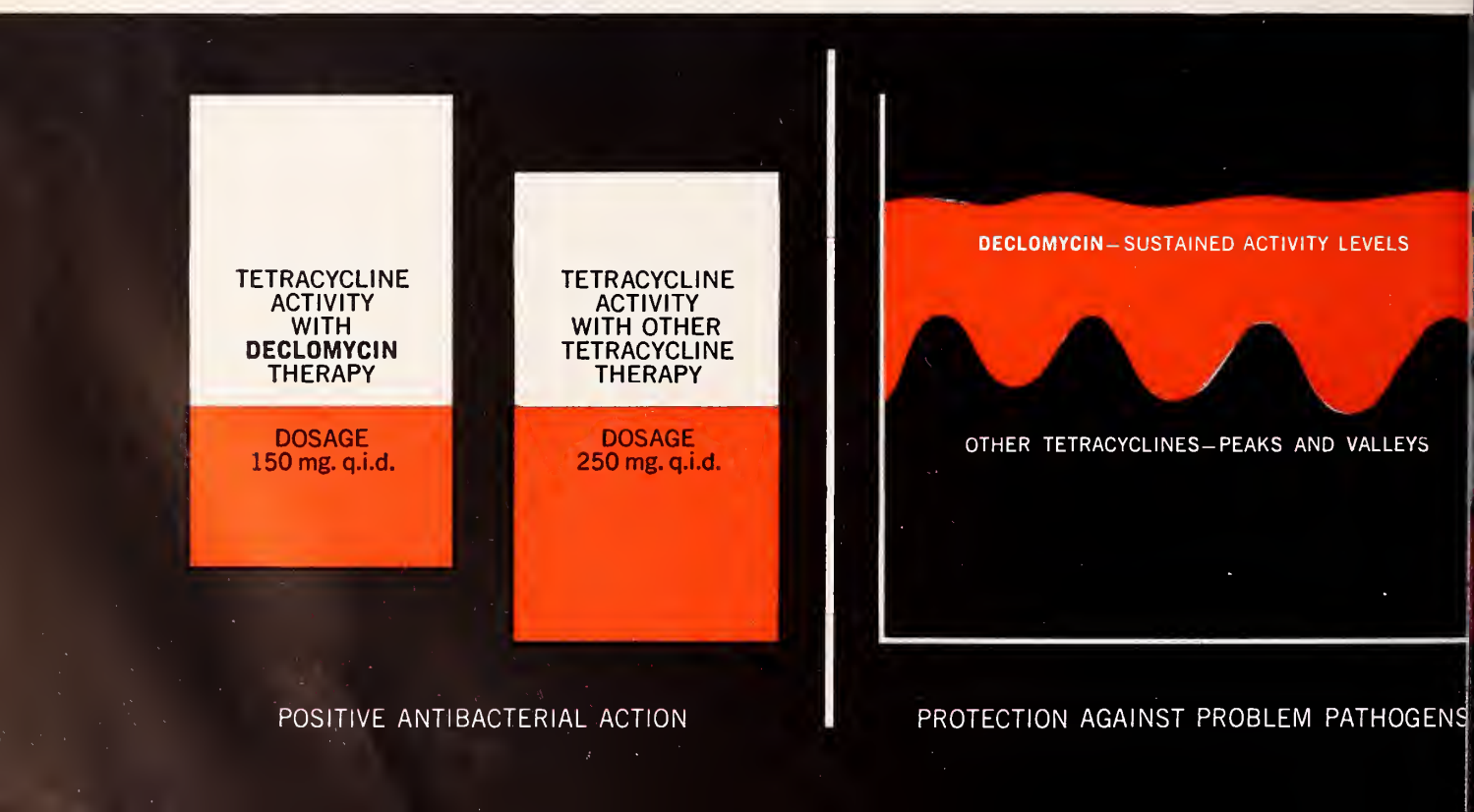
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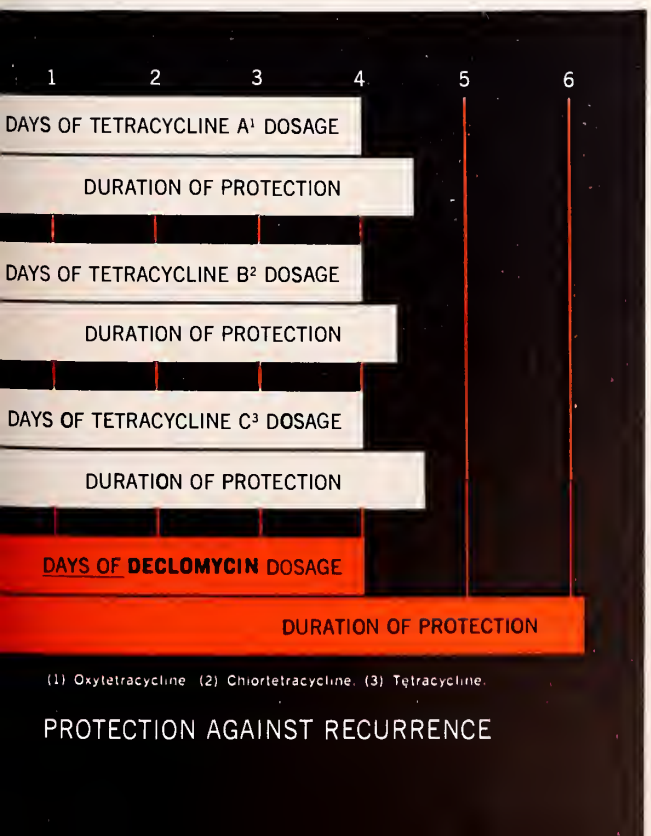


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Tumors of Central Nervous System*

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Emphasis is placed on early diagnosis by the clinician who first sees a case with signs and symptoms resembling those of brain tumor. Intracranial gliomas are not rare, particularly when it is recognized that the brain is one of the first three organs most likely to be affected by primary neoplastic process in males under 40 years of age and females under 20 years. The intracranial gliomas are classified as to cell type, usual location and degree of malignancy. Most frequent initial signs and symptoms are discussed and typical past errors in differential diagnosis given. Diagnostic aids such as electroencephalography, angiography, air contrast roentgenography and others are considered. The relationship of intracranial gliomas to the general cancer problem is emphasized. (C.W.E.)

DOCTOR Eisenbeiss, ladies and gentlemen, it is indeed an honor and pleasure for me to be in Phoenix again. Every time I have been here I have thoroughly enjoyed it, and this is no exception. Your traditional Arizona hospitality has certainly been evident to us who come here on this occasion.

Dr. Eisenbeiss has indicated that we are going to talk this afternoon about brain tumors and are to limit ourselves to the intrinsic tumors of the brain, the gliomas. By doing this, Dr. Eisenbeiss has eliminated from our discussion some of the tumors that have the best prognosis. We have immediately to delve into that group which is serious in its implications but in which we feel there is something to offer when seen early enough.

The two points I want particularly to emphasize are that the early diagnosis of these tumors rests not so much on the neurologist and neurosurgeon as with you who are in other fields of clinical medicine. It is you who are going to see these people first and who must get them into the hands of some one who will care for the definitive therapy if you are not prepared to yourself. There will be some allusion to the types of glioma and what can be done for them. The other point I want to emphasize is that these are not rare growths.

Tumor of the brain has more or less traditionally been regarded as a rare entity; we must revise our thinking in this matter.

As a basis for this revision, I would like to present to you some statistics. A report in 1931 by Helmholtz showed that out of 750 cases of

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malignant neoplasm in childhood, the central nervous system was the one involved by far the most frequently. In a round table discussion in 1947, again a review of a considerable number of tumors showed that the central nervous system was affected more than any other system, as far as early involvement was concerned.

Reviewing the location of cancer, this work by Levin(1) showed that in females to age 20 the brain was among the first three organ systems in frequency of involvement by neoplasm. In the male, the brain was among the first three organs to be involved, up to the age of 40. This, therefore, is not a rare entity about which we are talking this afternoon.

Some more recent work was published in November of this year by Kurland(2), taken from work at Rochester, Minnesota, The Mayo Clinic. He proceeded on the hypothesis that all brain tumors in patients living in Rochester, Minnesota would be studied by The Mayo Clinic, and in 10 years there were 50 intracranial neoplasms that came from this group. The population of Rochester, Minnesota is given as a mean average of 30,000 during this time. Twenty-seven of these were primary tumors of the brain. (That is the group we are going to talk about this afternoon.) The incidence, then, would be 9.2 brain tumors per 100,000 population, per year.

The incidence was noted to increase gradually, but persistently, with age. There has been an idea that a drop off occurs after the middle or so-called cancer-bearing age. That has not been the case here.

Approximately one per cent of all the deaths reported are from primary intracranial tumors, and 1.8 per cent of all deaths are from a combination of primary and metastatic tumors to the brain.

With this information we are justified in concluding then that we have for discussion a lesion which may come to the attention of anybody in the practice of clinical medicine. Unfortunately, it may also affect anyone who is personally in that practice himself, as we who are in the field of neurological surgery have had distressing occasion to discover.

The gliomas we are about to discuss are those tumors which arise from the cells of the nervous system itself. From the clinical standpoint these have come to include all intrinsic tumors of the brain.

Some classification of these tumors is necessary as a basis for discussion. There are a number of classifications which have been presented over the years. The simplest one with which I am acquainted was attributed to Dr. Walter Dandy. He said there were two kinds of brain tumors, the hard ones and the soft ones. The hard ones got better, and the soft ones didn't. We have a bit more complex classification than that which we have been using in our Center. This dates essentially to the classification of Doctors Bailey and Cushing published originally in 1926. On the basis of classification then we can draw some general conclusions about tumors from the clinical standpoint. (Remember, these are generalizations.) The tumors of the glioma group in the adult usually will be above the tentorium and in the child usually will be below the tentorium. There are many notable exceptions, but that is an average.

(Among the gliomas, we have some types over around the periphery of this drawing: astrocytes, oligodendrocytes, spongioblasts and medulloblasts, which are among the more common types of cells you will find in the glioma group.)

Most common of all gliomas in the classification which will be used is the astrocytoma. It is most frequently encountered because it affects all parts of the brain and spinal cord. In the child it tends to be in the midline and tends to be cystic with a mural nodule. In the adult, it is more commonly found above the tentorium. In the spinal cord it may be a cystic mass, which may be miscalled "syringomyelia".

There are three principal subtypes of astrocytomas: the fibrous, the protoplasmic and the gemistocytic or large cell type. There is some variation in the degree of malignancy, the fibrous being the most promising, and the gemistocytic the least promising of these from the therapeutic standpoint.

The glioblastoma is the most common of the cerebral gliomas; but because it does not usually affect other parts of the central nervous system, it is second in frequency in the over-all group. This is a very rapidly growing tumor, with a tendency to spread along the fiber pathways going to the contralateral hemisphere and down the brain stem to the medulla. It is the classical

rapidly progressing tumor of the middle life.

The medulloblastoma is one of the most common types seen in childhood. It tends to arise from the roof of the 4th ventricle, either from cell rests there or from cell rests in the migration of the outer granular layers to the inner granular layers at about the time of birth.

The oligodendrocytoma is usually found in the white matter of the cerebrum. The ependymomas are usually found in connection with or very close to the ventricles of the brain or the aqueduct. They are also in the spinal cord, usually near the central canal, and in the caudal region arising from the filum terminale.

The polar spongioblastomas are usually found in the medulla, the 3rd ventricle or in the optic chiasm or optic nerve region. Sometimes they are in the corpus callosum.

These, then, are the principal tumor cell types with which we are dealing. What now of the first signs or symptoms indicating the presence of intracranial growth. The most common first sign — though still not in the majority of instances — is headache. This can come about by blocking of the cerebrospinal fluid pathways or by proximity of tumor to the meninges. Obviously not all people with headache have a brain tumor. But as a statistical point, more patients will present themselves with headache as a first sign of brain tumor than with any other first sign. The headache, therefore, is not to be passed off and forgotten. If it is not patently due to a brain tumor, put the point aside in your thinking, but do not forget it.

The next is the appearance of convulsion. (Actually, convulsion and hallucination should be one and the same because the organic hallucination is a sensory type of convulsion.) This results from the irritation of the brain cortex either by direct pressure on the nerve cells or as the result of interrupting some of their connections. It results in either a motor or a sensory attack, the latter being called hallucinatory. A patient after the age of 21 who has newly developing convulsive seizures, either motor or sensory, must be regarded as having a brain tumor until proved otherwise. The fact that this is not apparent at the first time the patient is studied does not mean that this patient again can be put aside. He must be studied and restudied. Sometimes these tumors will not become manifest to our gross methods of examination for as long as four or five years. Many of them will be apparent, though, within six months or a year. They must be restudied. They must not be forgotten.

This point must be well remembered by all of us, and I am including neurosurgeons, myself, and others in neurology and neurosurgery, as well as people outside of these fields, because we must keep reminding ourselves too. Many patients come to all of us with headaches that at the outset are not particularly clear as to etiology. Any of us may see patients with the convulsive state.

Personality change is the next most frequent first sign of a brain tumor. This, of course, is aligned with certain areas of the brain, the temporal and frontal lobes in particular, and the corpus callosum to some extent. It can appear as a manifestation of mass of tumor elsewhere as well.

Other frequent first signs are visual disturbance affecting the visual pathways, which, as you know, run from the frontal to the occipital region throughout the entire extent of the brain. Auditory disturbance refers chiefly to a peripheral nerve tumor of the posterior fossa. Speech difficulty may occur in any expanding lesion arising in the dominant hemisphere. Drowsiness is a relatively late sign, a sign usually of involvement of the fluid pathways, and producing increase of intracranial pressure.

"Dizziness" is sometimes reported in patients who have involvement of the motor cortex or the cerebellum. This location is also reported at times to produce a staggering, or weakness and clumsiness. It may be reported by the relatives or may be the patient's complaint.

Gastrointestinal upset occurs in childhood as an early manifestation of increasing pressure. Harvey Cushing said that when any child comes in with recurrent nausea and vomiting he should have the optic fundi inspected, because frequently there will be papilledema.

Endocrine disturbance especially comes about from those tumors which involve the 3rd ventricle region — hypothalamus and the infundibulum — the area where we know endocrine centers exist.

If we are going to look at ourselves with ade-

quate self-criticism, we must think of where we have made our errors in the past. What have been the wrong diagnoses when brain tumor has ultimately been proved to be the correct one. Neurosis, epilepsy, cerebral arteriosclerosis, cerebral hemorrhage, sinusitis and intestinal flu are among these, and the early diagnostic symptoms and signs noted above can be reviewed, and one can see where these would fit in as an erroneous diagnosis for a time.

Other early diagnostic errors have been those of eye trouble or ear trouble. Of course these are not true diagnoses, but sometimes they have been found in hospital records. Meniere's syndrome, middle ear disease or otosclerosis are diagnosed in those patients who have had dizziness or vertigo as the only sign of their complaint. "Degeneration of the brain," another "diagnosis," again is not a true one but rather a term in which one might take refuge if he did not think of the possibility of a brain tumor.

"Hypertension" has been recorded as an explanation for headaches. Multiple sclerosis — a wastebasket if ever there was one in neurological nomenclature — has been so mistaken. Encephalitis and poliomyelitis have been miscalled, and again, if we think of the possibility of brain tumor, these are not likely to be mistaken. Meningitis, syphilis and the menopause are others. The menopause, of course, is far too often a reason for not carrying out adequate examination by all of us.

The chief reason for diagnostic error would be principally that a brain tumor has not been considered. It has been regarded as a rare entity. It has not been in the forefront of our thinking when we have the patient brought before us. In our hurry history and examination become inadequate. We do not think about this possibility in the patient with a headache, for example, or then maybe over-emphasis on misleading signs as head injury, syphilis or alcohol. A "head injury" patient can have a brain tumor as can the luetic and the alcoholic. One must bear these points in mind.

Now, what are the methods of differential diagnosis to avoid these errors? The first is: (I will re-emphasize this perhaps *ad nauseam.*) *to think of brain tumor.* And as one thinks of it, one thus includes a neurological examination in the general physical examination of the patient. A neurological survey is not so complex but that it should be carried out in the course of one's study of a patient coming in with any of the complaints we have discussed. It does not take too long. It is, of course, of great importance if we are to pick up these neoplasms early.

The next point we want to discuss in our examination is the spinal fluid. The pressure here increases as intracranial tension builds up, and the measurement of this pressure and analysis of the fluid are of value. Spinal fluid studies must be carried out with care, for we can precipitate a serious complication such as herniation of the cerebellar tonsils or of the hippocampal gyrus. Even if there is no evidence of increased intracranial pressure, spinal fluid studies should not be undertaken carelessly. This investigation includes pressure, cell count and chemistry, especially protein. We never do a jugular compression test (a so-called Queckenstedt test) if an intracranial lesion is suspected. This can be misleading, even though the spinal fluid pressure is normal, and can result in the death of the patient. (The only reason for doing a Queckenstedt or jugular compression test is that one suspects a spinal cord lesion.)

Electroencephalograms are of some value in the early identification of a lesion in the brain cortex or a deep lesion affecting the brain cortex. The electroencephalogram may be a misleading test, however, if one is leaning on it heavily in the diagnosis of brain tumor. This is emphasized because too often we have heard "encephalogram" used as synonymous with "electroencephalogram". Most of us in the field of neurology and neurosurgery speak of "pneumoencephalogram" as being the "encephalogram" and electroencephalogram as having distinctly less value in the area in which we are carrying on our discussion today.

Pneumoencephalograms will be discussed by Dr. Hodes for you later. Plain films plus special air contrast studies have proved to be of tremendous value to us in the identification of these neoplasms and perhaps are depended upon in the localization of neoplasia for surgery more than any other single test. I will not go further into this at the present time.

Angiography, another radiographic diagnostic method, also will be discussed by Dr. Hodes in his portion of our panel discussion today. The

use of radioactive isotopes has had a considerable vogue. It has proved to be somewhat disappointing, although there may be some value in it. The procedure has been the injection of material which will be taken up by brain tumors due to the fact that the blood brain barrier in the neoplasm, the glioma, is usually lowered and certain material can go from the blood stream into these neoplasms. If a radioactive isotope of certain type can be put into the blood stream and can be concentrated in the tumor, then theoretically it can be picked up by counting devices, and the tumor can be identified. This method has not been used, at least in the community in which I work, as commonly as one would feel it might have been used when it first came to the general attention. At the present time it can be regarded only as still having some potential value if pitfalls can be eliminated.

Surgical intervention in the case of gliomas of the nervous system is usually but not always indicated. The reason it is usually indicated is that we cannot know exactly what sort of tumor we are dealing with without having a piece of tissue to study under the microscope. There are occasions, however, where the hazards of obtaining tissue can conceivably outweigh the great advantages of having a definite knowledge of the cytology of the tissue. Those must be matters of judgment on the part of the person who is to take the tissue.

The decision to take tissue may be affected by the history and physical findings, the general condition of the patient, and the region of the brain involved. If a neoplasm is deep on the left side of the brain, one would weigh the advisability of a surgical procedure there with greater care than if it were on the surface on the right side of the brain, for example. The apparent tumor size and the length of time that the patient has had symptoms all play their role in the decision as to surgery or no surgery. Most of the time, however, surgery is indicated in the glioma group. We must restrain our preconceptions as to what sort of tumor we are dealing with, for sometimes these may be wrong; and even when they are right, the outlook for a particular patient may be better or worse than we had anticipated. I shall never forget two patients, both sergeants in the Army, who were treated at about the same time. One of them had an extracerebral cystic tumor, a craniopharyngioma, commonly regarded as having a fairly good prognosis. The other had a glioma of the ependymoma group. These patients have been followed over the years. The first patient is still in a government hospital, probably a permanent cripple because of recurrences of his tumor and irritation of the brain that has resulted therefrom. The second patient, the ependymoma, has his own business and is a very enthusiastic skier (maybe that's not in his favor!). He has a family and, as far as we can see, is a normal man in every way 19 years after surgery. By our preconceptions the latter patient was the one who probably would not do well and the former the one who would have been thought of as having the good prognosis. We must do the best we can for all patients who come to us. In this sort of problem we cannot predict what the future will hold with any degree of accuracy.

In a certain percentage of patients who are operated upon as presumptive gliomas, we are going to find instead other types of tumor including metastatic growth. It has been asserted in a recent panel discussion on this subject in the American College of Surgeons that more than 50 per cent of cerebral metastases become manifest in the brain before the primary becomes evident. This is a rather striking figure, but as we follow our incidence of metastasis in the clinic, I think it can be supported. Common primary sites of tumors that metastasize to the brain are the lungs, the breasts, kidneys and the melanosarcoma group. The latter has been reported to metastasize to the brain in 50 per cent of all instances — a high incidence, but probably one that can be supported.

The surgical removal of a single cerebral metastasis, if it is incidental, cannot be regarded as catastrophic, for many of these patients will live for a year or more thereafter. Even if a metastasis is recognized and considered before the surgery is carried out, it should not be regarded as a contraindication for surgery. Patients with superficial metastases in the brain seem to do quite well following operation and oftentimes are out of the hospital earlier than many postoperative patients who have had laparotomies, thoracotomies and even other types of craniotomy. If the tumor seems reasonably accessible then, and if the patient's general condition is reasonably good, a probable diagnosis of a metastatic tumor to the brain should not be contra-

indicative of attempted surgical removal. If there are multiple metastases to the brain, however, surgery loses rapidly in potential value.

Gliomas and metastatic tumors may also involve the spinal cord. The gliomas affecting the cord are the same as those affecting the cerebrum. The astrocytomas and ependymomas, however, are considerably more frequent in the cord than are the other tumor types.

Metastatic tumors particularly affect the tissues around the cord and can produce compression of it. It should be emphasized that if a patient with a cancer in some other part of the body shows signs of progressing cord compression, one should look for a neoplasm metastasizing to the vertebrae in the vicinity of the cord and should decompress that cord at the earliest possible time. These oftentimes become emergency procedures because we often can avoid a paraplegia or a situation in which the patient will lose control of his bladder and bowel sphincters. A patient with signs of metastasis to the cord should not be given up but should be brought to the attention of someone who can carry out a decompression as early as possible. Certainly those patients are much more easily cared for when they have not lost this important function.

We will now turn to prognosis. With the gliomas the prognosis depends so much upon the tumor type. These are serious problems. The earlier the patient is seen, the better the prognosis. The tumor in the frontal pole, in the occipital pole and in the temporal pole, particularly the temporal pole, will carry a better prognosis than one lying deep in the brain, one which is going to metastasize or is going to spread along the fibre pathways to the contralateral hemisphere or into the brain stem.

The tumor which is on the surface which is going to seed into the subarachnoid channels — and any glioma can seed to the subarachnoid channels or the ventricles — is going to have a more grave prognosis than one which has not so seeded.

The medulloblastoma group particularly tend to seed, and that eventuality is taken into consideration when one plans the surgical therapy and postoperative care. Dr. Hodes will, I am sure, refer to x-ray therapy in many of these tumor types. Given a reasonably early identification of the tumor, and given one which is accessible however, the prognosis in the intrinsic tumors of the brain, the worst group of all, is comparable to the prognosis in cancer of other parts of the body. It is better than the prognosis in most cancers of the lung, and it is comparable to most cancers of the stomach. It is better than most of the highly malignant cancers of the renal system. Glioma is therefore not a tumor which, when identified, should be regarded as a hopeless affair. It does carry a serious prognosis, but it is far, far from hopeless. Many patients will go for many years and will have useful lives during these years of survival.

What about the future? Brain tumors are part of the cancer problem. You have heard some discussion this morning concerning various etiological factors, the viruses. The glioblastoma multiforme has always attracted many of us because it seems to be a form of a granuloma, an infectious process. Thoroughgoing studies of glioblastoma multiforme have failed to reveal, so far, the presence of a virus. Yet we keep on looking. Something will appear, I am sure, probably in the relatively near future to help us understand these tumors better, but it probably will be by the development of our knowledge of cancers as a whole. The reason that these tumors are particularly attractive as areas in which to study cancer is that the tumors are nearly always confined to the craniospinal axis. They are part of the tumor problem. The solution therefore is interrelated with that of other sites. And with the changing concept predictable in our developing a better understanding of cancer, though, we feel we will get a better prognosis too as time goes on. We feel that we must have that hope and that we are justified in that hope.

A change in the early manifestations leading to the diagnosis of the lesion is unlikely, though. Therefore, the points we have mentioned — the early signs of tumor, the items that may lead to mis-diagnosis — these are likely to remain the same. These are the points I would leave with you. And most important of all is to continue to consider the possibility of the presence of a brain tumor!

1. Levin, Morton. Reported in "Cancer," Ackerman, L. V. and J. A. del Regato. 1947. C. V. Mosby Co., St. Louis, P; 1115, Ref. Pp 19-20.

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Carcinoma Of The Bladder: Pathologic Aspects*

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CARCINOMA of the bladder represents approximately 1% of all malignant epithelial neoplasms. It is predominantly a disease of males, and occurs with a ratio of 3:1 to 4:1 as compared to females. About 60% of all carcinomas of the bladder occur in patients between 50 and 69 years of age. For many years, this malignant disease has been known to occur frequently in workers in the dye industry, particularly those in contact with aniline or other coal-tar derivatives. The compound believed responsible for the carcinogenic action on the bladder is beta-naphthylamine. The carcinogenic effect of these coal-tar derivatives depends upon the duration and intensity of the exposure. Leukoplakia initiated by long-standing, chronic inflammation or mechanical irritation of the bladder may be followed by the development of epidermoid carcinoma. Both leukoplakia and epidermoid carcinoma of the bladder may occur in extrophy or in cystitis cystica, but neither of these proliferative lesions have an apparent relationship to the presence of calculi in the bladder.

Carcinoma of the bladder also occurs with a high incidence in patients infested by Schistosoma hematobium. In Egypt, between 70 and 90% of the population is affected by this parasite. Because of the similarity between papillomas of the bladder and papillomas of the skin of viral origin, both in animals and human beings, a virus etiology of papillary carcinoma of the bladder has been postulated, but such relationship has not been proven.

The gross appearances of epithelial neoplasms of the bladder vary widely. These lesions may be single or multiple, papillary or sessile, or non-infiltrating or infiltrating. Benign lesions or papillomas arise in the mucosa and appear pink or red, friable, soft, villous or nodular. As malignancy supervenes, invasion of the vesicular wall with fixation of the neoplasm occurs. In

*Presented at the 8th Annual Cancer Seminar, Arizona Division, American Cancer Society, Phoenix, Arizona, January 14-16, 1960.

the later stages, secondary infection and ulcera- eventually extensively invade the wall of the tion are common. It is believed that the majority of infiltrating carcinomas develop initially as more benign papillary lesions. These epithelial neoplasms, benign or malignant, appear most often in the region of the trigone about the ureteral orifices and on the lateral walls of the bladder. The predilection for these sites suggests that irritating substances in the urine may be important factors in etiology.

The neoplastic cells comprising these lesions originate in the transitional epithelium of the bladder. Some classifications consider all the lesions as carcinoma, regardless of their histological or cytologic patterns. Other classifications include four major groups:

1. Papilloma. This is a papillary lesion composed of transitional epithelium closely resembling that of the normal mucosa. The cells are uniform. Few or no mitoses are present and the basement membrane of the epithelial layer of the papilloma is intact, and there is no invasion.

2. Malignant Papilloma. In these lesions, the papillary structure of the neoplasm is distinct, but the neoplastic cells show varying degrees of pleomorphism and nuclear hypochromatism. Mitoses may be numerous. Although cytologically malignant, there are no evidences of invasion beyond the basement membrane.

3. Papillary carcinoma. These lesions are similar to malignant papilloma, with the exception that at least local invasion of the bladder wall beneath is demonstrable.

4. Carcinoma. Here the papillary characteristics rarely remain, and obviously malignant epithelium is invading the wall of the bladder.

These four stages of development have been classified as carcinoma grades I - IV.

As in any other malignant neoplasm, the microscopic pattern may vary within different portions of the lesion. While superficial biopsy may suggest that the lesion is benign, invasion beneath may be demonstrated on more adequate sampling. In some neoplasms, neoplastic cells assume a squamous pattern, and in others poorly defined glandular structures are occasionally observed. As a rule, even in ulcerated transitional cell carcinomas, an origin from the transitional epithelium of the bladder can still be demonstrated. The malignant neoplasms bladder. Usually, the rapidity of invasion is proportional to the degree of anaplasia exhibited by the neoplasm.

Cytologic examination of urinary sediment by the Papanicolaou method has given positive accurate diagnoses in 50 to 90% of the cases of bladder neoplasm examined. It should be emphasized that severe inflammation in the bladder may produce changes in the non-neoplastic epithelium suggesting malignancy. Interpretation of Papanicolaou smears of the urinary sediment should be made with caution.

Carcinomas of the bladder most frequently metastasize to lymph nodes about the bifurcation of the iliac arteries. However lymph node involvement may extend to the level of the diaphragm. Metastases in regional lymph nodes are more prominent in cases where the neoplasm of the bladder has extended locally into the prostate gland or adjacent pelvic tissues. Metastases to the liver, lungs and bones are less common but may occur when metastases in regional lymph nodes are absent. Metastatic disease of the pleura, peritoneum, skin and brain also occurs.

Other types of neoplasms of the bladder are rare. Mucinous adenocarcinoma occurring in the bladder appears to be of urachal origin. Neurofibroma, leiomyoma, fibromyxoma, hemangioma, habdomyoma and other rare neoplasms have been described.

Of the solitary neoplasms with a benign structure (papilloma), some are cured by local removal, whereas others appear to be forerunners of multiple recurrent neoplasms of the bladder. Multiple recurring neoplasms with a benign structure (papillomas) may be of extremely long duration. However, local removal of individual papillomas does not usually result in permanent cure. Unless the entire area containing the neoplasm can be radically removed, the disease eventually has a fatal termination. All other solitary or multiple neplasms(malignant papilloma, papillary carcinoma, carcinoma) run a more malignant course, and unless radically resected or destroyed, end fatally within months or a year. In most cases of carcinoma of the bladder, death is caused by urinary obstruction and infection, or by metastases.

Why diet is preferable to drugs

...in the control of serum

The objective of therapy is the approximation of the physiological norm.

This is most satisfactory when it can be accomplished by dietary manipulation. The control of elevated serum cholesterol through relatively simple changes in the dietary pattern of the patient puts nature's own processes to work most effectively to achieve the objectives of treatment.

The dietary approach does more than correct the serum cholesterol problem. Because overweight, together with improper eating patterns, is so often involved, the prescription of corrective diet helps the patient to help himself by establishing sound nutritional practices.

For the prophylaxis and prevention of hypercholestemia, the dietary approach affords the advantages of simplicity and economy. Diet therapy is for the long-term management of a chronic condition, while drug therapy is most efficient for acute situations.

The development of atherosclerosis is a slow process. It is believed that the onset of this condition is in early adulthood, but its clinical symptoms take as many as 20 years to manifest themselves. Simple changes in diet serve to keep the blood cholesterol concentration at an acceptable level.

Dietary therapy has other significant advantages over medication as follows:

1. Dietary adjustment involves little or no expense to the patient, whereas drugs are costly.
2. Dietary therapy may be made with complete safety—even for pregnant females.
3. Dietary therapy produces no side effects, whereas there is not as yet sufficient clinical evidence as to the long-term effects of drugs.
4. Dietary therapy brings about reduction in serum cholesterol through normal body processes, as yet not fully understood. On the other hand, some drugs can leave in the body accumulations of cholesterol precursors.
5. Dietary procedures do not usually generate new compounds in the blood which interfere with the chemical determination of blood serum cholesterol.
6. Dietary therapy offers a solution to the related problems of obesity which drugs do not.

Elevated serum cholesterol has long been linked to an imbalance in the ratio of the type of fat in the diet. Reductions in cholesterol levels have been achieved repeatedly, both in medical research and practice, through control of total calories and through replacement of an appreciable percentage of saturated fat by poly-unsaturated vegetable oil. An important measure in achieving replacement is the consistent use of poly-unsaturated pure vegetable oil in food preparation in place of saturated fat.

* * *

Poly-unsaturated Wesson is unsurpassed by any readily available brand, where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen.

ROCK CORNISH GAME HENS—Free Wesson recipes for delicious main dishes, desserts and salad dressings are available for your patients. Request quantity needed from The Wesson People, Dept. N, 210 Baronne St., New Orleans 12, La.

More acceptable to patients. Wesson is preferred for its supreme delicacy of flavor, increasing the palatability of food without adding flavor of its own.

Uniformity you can depend on. Wesson has a poly-unsaturated content better than 50%. Only the lightest cottonseed oils of high iodine number are selected for Wesson, and no significant variations are permitted in the 22 exacting specifications required before bottling.

Economy. Wesson is consistently priced lower than the next largest seller.

Wesson's Important Constituents

Wesson is 100% cottonseed oil . . . winterized and of selected quality

Linoleic acid glycerides (poly-unsaturated)	50-55%
Oleic acid glycerides (mono-unsaturated)	16-20%
Total unsaturated	70-75%
Palmitic, stearic and myristic glycerides (saturated)	25-30%
Phytosterol (Predominantly beta sitosterol)	0.3-0.5%
Total tocopherols	0.09-0.12%

Never hydrogenated—completely salt free

holesterol



Arizona Medical Association Reports

The President's Page

The Physician and His State Medical Association

Lindsay E. Beaton, M.D.



Lindsay E. Beaton, M.D.

The officers of a State medical society hears no more troubling question than that often shot at him by an uninformed member: what do I get for my dues? Inquiry may shade into accusation: I don't see that I receive any benefits from the $70 I pay every year to the Arizona Medical Association (ARMA). In fact, each member in Arizona pays dues of only $60.00, the extra $10.00 being a contribution voted by the House of Delegates to the American Medical Education Foundation. To anyone who has participated in the work of our Association, the question is at once so unexpected and so misconceived as for a moment to take away the breath of answer. However, when one marshalls a defense of facts and figures, the reply to the detractor quickly passes from justification and explanation to certain pointed queries of the inquirer, as suggested in the peroration of this essay. To any fair-minded critic, it can readily be demonstrated that the exertions of a State medical society in behalf of its physicians are not far short of prodigious. Their volume almost made the writing of this paper an unanticipated expense. When the Executive Secretary was asked to give an outline of the labors of the Central Office, he forwarded the synopsis with a note to the effect that he was worn out just thinking about all of the things that the Central Office did. The President felt impelled to offer him an extra two weeks vacation, fortunately declined on the ground that there was too much work to do.

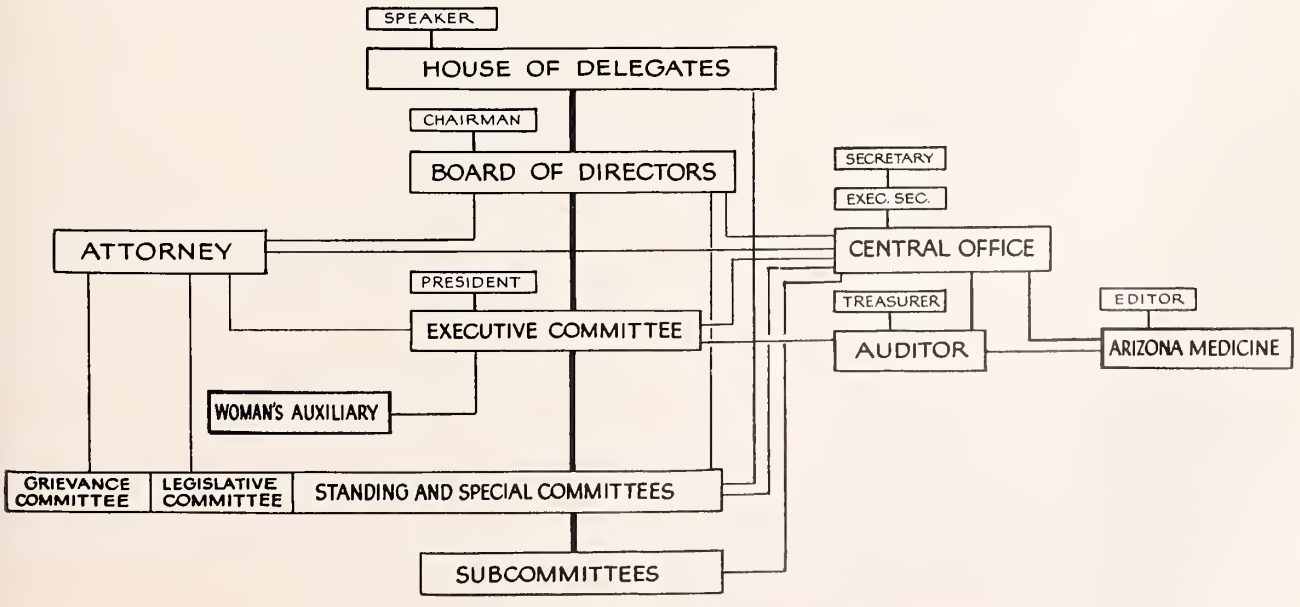
For those who are not conversant with the structure and operations of our organization, a summary may be a helpful backdrop for the description of its performance. The ultimate authority of ARMA is its House of Delegates, democratically chosen by the physicians of Arizona through their county societies. Between meetings of the House, the Board of Directors, whose members have all been elected by the House, by explicit sanction of the bylaws has the full power of that body to manage our affairs. The collation of facts and the preparation of policy alternatives for decision by the Board of Directors is the main function of the Executive Com-

mittee, which consists of the five executive officers of the Association. The grist that comes through the Executive Committee to the Board of Directors derives largely from committee study of problems and recommendations for action. The bylaws provide for standing committees, and the President, with the approval of the Board, may appoint ad hoc committees for the consideration of special or unusual issues. The committees themselves have the prerogative of establishing sub-committees for intensive examination of specific sectors of their responsibilities. The ladder of policy, therefore, ascends from sub-committee to committee to Executive Committee to Board of Directors to House of Delegates. At each Annual Meeting the Board, the officers, and all the Committees furnish complete reports of their year's stewardship for the verdict of the House and for ratification if approved. Serving every echelon of Association business is the Central Office, together with its subsidiaries, our auditor and our attorney. Two ancillary establishments, *Arizona Medicine* and the Woman's Auxiliary, operate autonomously but always within limits set by ARMA and in undeviating accordance with its wishes and official program.

This circuit diagram of our society is not difficult to trace. The communications that continually pass over it and represent the work for which it was designed can present a bewildering pattern. Perhaps it is easiest to follow from the output point of the Central Office, through which flows the day by day activity of the Association. The average member cannot easily visualize the tremendous job done in his interest, directly or indirectly, through the Central Office and demanding the detailed attention of its small staff. The Central Office staff consists of our Executive Secretary and his assistant, and four stenographer-secretaries. This is not the place for bestowal of individual commendations, but it is proper to say as an aside that those who have been associated with the official affairs of ARMA feel to a man that without any question we have in Robert Carpenter the finest executive secretary of a medical association in the United States. In his assistant, Paul Boykin, we are seasoning a promising possible replacement for the evil day of Mr. Carpenter's retirement. The Central Office staff has the task of serving over 1000 physicians. At the time this article was prepared, the roster of the Association totaled 1047: 942 active members, 17 Fifty Year Club members, 13 Seventy Year members, 44 associate members, and 31 service members.

In addition to services provided each individual member and the faithful representation of

The Arizona Medical Association, Inc.
ORGANIZATION CHART



the united viewpoint of Arizona's doctors, it should be recognized that the amount of work done by the Central Office in the routine administration of this major corporation is in itself immense. One wonders how our staff manages even to do this ordinary housekeeping much less accomplish the myriad special tasks that we require of it.

Reviewing, as I have in preparation for this article, merely the procedures in connection with our expenditures, purchase of equipment and supplies, and the accounting therefor, reveals them to be, as I presume they are in any corporation, a sizable charge. The recording of the proceedings of the House of Delegates, the Board of Directors, and the various committees of the Association is another assignment of unexpected magnitude. All of this entails a substantial volume of correspondence in preparation of meetings, the development of agendas, and the implementation of the determinations reached. A hint if not a detailed evaluation of the work of each of the committees of the Association will be given in a moment. The point here is that every one of these committees is enterprising and aggressive and preempts, entirely fittingly, a great deal of Central Office time. Either the Executive Secretary or his Assistant, and more often both of them, attend all committee meetings, which are usually held on a Sunday in Phoenix or Tucson. Each committee and many of the sub-committees requisition the attention of the Central Office. The staff furthermore handles the business and financial activities of *Arizona Medicine*, with the assistance of a full-time secretary in the Editor's office, utilizing 25 per cent of the time of the Assistant Executive Secretary and 25 per cent of the time of one of our stenographers. A vital and sensitive role is the political one, advice to and support of the Legislative Committee; during the meeting of the Legislature, Mr. Carpenter is on constant call at the Capitol Building in the advocacy of our interests, largely before committees of the Senate and House of Representatives. In this he and our counsel of course act to inform and assist the Chairman of the Legislative Committee and the officers of the Association. Almost equal time will in the future be demanded of the Central Office by our Public Relations Committee; not only is constant vigilance necessary to inspect the information on health being dispensed by the organs of public information and the image of the physician they project, but also co-operation with press, radio, and television is essential to furnish accurate stories on advances in medical science and the ways in which they will be made available to the citizens of Arizona. The Central Office, as clearing-house for the Committee, in addition must meet the requests of many paramedical and non-medical agencies for speakers, exhibits, and information. Finally, the Scientific Assembly Committee claims the concentrated attention of the staff each Spring in the preparation of the program of Annual Meeting, which is after all the great professional observance of the Association. The Central Office people particularly have the chore of making all of the dispositions at the hotel selected, contacting and negotiating with exhibitors, and arranging the countless details of the convention, details the complexity of which can be credited by no one who has not had the responsibility and dubious pleasure of supervising our vernal clambake. I have at times idly wondered if the Bylaws provision that the President-Elect shall chair the Scientific Assembly Committee is intended as a final trial by ordeal of the man to be honored the following year as the nominal leader of the Association. If the poor fellow ends up on Van Buren Street, he just was not the right choice.

Statistics need not be boring; they can be fantastic. The bare facts of the Association's epistolary production may convince the most dedicated skeptic that our staff is not exactly loafing. Every year the Central Office uses more than 10,000 letterheads, 5000 second sheets and 12,000 copy sheets, 20,000 envelopes, and 20,000 sheets of electronic reproduction paper. We have estimated that out of the Central Office go 14 letters per stenographer per day, 7 days a week, 52 weeks a year. This is routine correspondence, but each letter must be dictated and each one has significance in that it carries the weight of the Association's name and opinion. There is no need to multiply examples. Anyone who grasps the entirety of the job done by the Central Office cannot but be humbled by the devotion and loyalty of every member of that staff. One wonders, as a matter of fact, why they give us so much more than full measure. I can only assume that they like the physicians whom they serve, that they have their own allegiance to the public

health, and that they choose to make their contribution through ministration to us, "their doctors". It is not possible to exaggerate their usefulness to us. They are the civil servants of medicine; they labor for us with an astounding constancy, when we are weak and when we are strong, when we are wise and when we are stupid. And they never, whatever the provocation, find fault with us. I can only ask the reader how he would like to have 1047 bosses.

Any member who wishes reasonably to assess the uses to which his dues are put should have at least general knowledge of the expenditures of ARMA. For an itemized account, the Annual Report of the Treasurer is read to the House of Delegates at the Spring convention. The budget for the following year is also submitted at that time. In the future the Board of Directors is going to see a bi-monthly auditor's report on our current financial status. In round figures, here is the way your money is spent. When one puts aside such items as our $9200 contribution to AMEF, our transmission of some $15,000 of AMA dues, the monies that go through our hands from the exhibitors in connection with the Annual Meeting, and similar bookkeeping entries, one finds that we have for the coming year an anticipated outlay of approximately $72,000.00. Of this an item of $42,000.00 defrays salaries, the various taxes levied on those salaries, industrial insurance, and Blue Cross-Blue Shield coverage for our employees. An $8,000 sum goes for travel and other expenses in connection with the operation of the Central Office. Our committees cost us $5,500 a year, with the Legislation Committee, including its needs for legal guidance, amounting to $3,000 of that total. The Annual Meeting is ticketed for $2,000, in addition to the exhibitor and registration fees and other self-supporting income it brings in. We give the Woman's Auxiliary $1,000. Our attorney is posted for $6,000, our auditor for $500. In the budget for the coming year $5,000 has also been allotted for the Publishing Committee, to ensure an auspicious embarkation of our venture with *Arizona Medicine*. The rest of our monies are accounted for by various miscellaneous expenses. It will be noted that none of the officers of the Association and none of the committee members are reimbursed in any way for the many hours they spend on your business, except for luncheons on the days of meetings. Occasionally, officers or official representatives who travel to important AMA or governmental assemblages in distant parts of the country are reimbursed for their travel expenses, but even this concession is held to a minimum. Any self-appointed watchdog can be sure that there is no extravagance; the Association's pennies are pinched till Mr. Lincoln is cyanotic.

Before one begins to count the ways in which the Association serves the individual member, it is proper first to reflect on what the Articles of Incorporation call "the objects, purposes and powers of this corporation and the general nature of the business it proposes to transact." Article III sets the tone: "to bring into one organization the entire medical profession of the State of Arizona; to promote the science and art of medicine; to promote and elevate the standards of medical ethics and medical education; to promote public health and in all instances and manners to operate as a non-profit business league and scientific and educational organization for the above-stated purposes." It is clear that the writers of what is truly our constitutional sanction were concerned with the employment of our collective energies in behalf of the public rather than narrowly in behalf of the economic gain of the individual doctor; and on two occasions the House of Delegates without dissenting vote has ratified the declaration. In following this sweeping injunction, however, the Association affords many very direct benefits to the individual physician. First of all, some of these may be listed as the most obvious answer to the question: what do I get for my dues?

Certain personal advantages are of an immediate economic nature, advantages that could not be found objectionable by the severest social critic of medicine. Among such is our placement bureau, which monthly tabulates opportunities for physician location throughout the State and answers inquiries about rural and urban opportunities. A second business service is the group accident and sickness insurance program written through the National Casualty Company of Detroit, with supplemental coverage through the Commercial Insurance Company of Newark, N. J. The battle of ARMA against the inclusion of doctors under social security and its vigilant guardianship of professional standards in the struggles with various private and governmental agencies that continually press for fixed fee

schedules are other examples of its advocacy of the member's vocational interest. Through its Benevolent and Loan Fund ARMA stands ready to assist any physician who is in financial distress, through direct grants from the income of the fund. This is a transformation of the old legal defense role that the Association once played, which now has been taken over by insurance companies. Personal good, if not measurable economic good, results from the Association's preservation of the history of medicine in Arizona, our piece in the great fabric of the tradition of our art, and from its maintenance, in the Central Office, of a record of each man's station in organized medicine. This includes a biography, current changes in professional situation and report thereon to AMA, an addressograph plate, and a comprehensive file card. Finally, it will mournfully provide his obituary.

Of less evident monetary value to the physician but still in the category of direct individual benefits are several other ARMA functions. It represents the doctor, as he could not be represented alone, with the Legislature, the American Medical Association, various lay organizations, and the public. Often these are stands of clear ultimate consequence for the member's community status and professional and economic well-being. Second, the Association also acts as an avenue of continued education for the physician, through the Annual Meeting, through seminars and special courses, through sponsorship of a State medical journal. *Arizona Medicine,* furthermore, furnishes ready pages for any Arizona physician who has a scientific matter worthy of report or who requires the precedence of prompt publication. ARMA is also a source of information. The Central Office will break its collective neck to dig out data pertinent to medicine on the request of any member. It is in the constant process of collecting such intelligence from the press and from other sources of public record, from other groups in organized medicine, and from many paramedical and lay associations. Though it is no longer necessary for it financially to rally behind the doctor accused of malpractice, the Association is still his shield; its Grievance and Medicolegal Committees are at the call of any member with a juridical or ethical problem. Through its Industrial Relations Committee, it protects him in his dealings with the Industrial Commission and the industrial employers of our State, and through the Medical Economics Committee and the Professional Committee respectively it extends assistance on questions of a business character or disputes of purely medical jurisdiction. No physician who has ever found it necessary to request the Association's help in such matters would ever challenge the use of his dues. In all of these areas — professional, legislative, economic, legal — your State medical society is always alert for relevant information and especially for any threats to the conduct of private practice, with the single aim of giving the Arizona physician access to knowledge he needs for the competent management of his professional and personal affairs.

Lastly, no catalogue of personal benefits is complete without appreciation of the advantages that any individual in modern collective society derives from identification with an organization. In our enormous and complex culture the individual voice is too often drowned out, but spoken through the megaphone of a recognized group it can carry far, can conceivably change the course of events, shake the old and introduce the new. This is one of the direct uses to which you can put your Association. This gathering in purposeful companies for various public enterprises is in the accepted tradition of the United States; in the early days of the Republic De Tocqueville wrote admiringly in "Democracy in America" of our impulse to join voluntary societies. It is the intention and hope of the officers and directors of ARMA that the channels are being kept open through which any member may speak his piece with the correct conviction that he will be listened to and that the Association will be his amplifier should he by consent be the prophet of his peers.

More significant to the physician than the personal gains he secures through his medical association are the social and scientific riches that he and his fellows can give to the society in which they live. This altruistic element in the work of ARMA is the real heart of its reason for being. Perhaps first in rank of these philanthropic functions is insistence on professional competence in our fellows. Through close liaison with the Board of Medical Examiners, the Association labors to keep out unfit doctors, charlatans and cultists, not, as assumed occasionally in certain sectors of the press, to protect the eco-

nomic position of a closed guild, but rather to protect the health of the people. In fact, acting for its members, ARMA vigorously encourages the entrance of new doctors onto the medical stage in our State. The Benevolent and Loan Fund makes available loans on a revolving basis to assist worthy young residents of Arizona who wish to secure a medical education. Additionally, through its placement bureau, the Association helps new doctors to find sites for practice and thus stimulates the immigration of welcome fresh professional talent from the country over. Our suggestion to the Board of Regents of the university system that an investigation be made of the feasibility of an Arizona medical school has borne fruit in the form of the Commonwealth Fund study. If Arizona finally founds a medical college, it will furnish many physicians for the State. The Grievance Committee safeguards the citizen against malpractice by any physician and against unethical conduct by any physician. Nationally medicine has been taunted with whitewashing the malefactors within its ranks; this is not true of Arizona.

For last I have kept the prime function of the doctor, the promotion of the public health, which the Association fosters in more ways than I can count. It proposes legislation that it believes necessary and supports good legislation proffered by others. It should be of interest to the members that not since we have had our present Executive Secretary and our present counsel has the Association ever failed to have passed by the Legislature any measure that it has sponsored. On the other hand, we have never failed to defeat any bill that we opposed as inimical to public health. The task of the Public Relations Committee in keeping the citizenry informed about health matters is an equally important part of the job. And, to end the story, the Association's benefits to the individual member are equally benefits to the individual patient. Such functions as keeping the doctor professionally abreast, publishing a journal, assisting the Industrial Commission, working out fee schedules, or placing physicians in rural practices are indisputably as much in the public interest as in the doctor's interest. For the future, ARMA plans to devise its own solutions for some of the social and economic problems that block the successful distribution of scientific medical care to all sectors of the populace. We are not satisfied to stand pat; we are anxious to meet every challenge and to give our fellow citizens the very best that we can, not only in individual care but also in broader health measures.

For all of this, your satisfaction in supporting medicine's corporation, your voice in the profession's policies, the individual benefits you receive and the social contributions you make, you pay about 16½c a day. With this munificent sum you hire the ablest Executive Secretary in the business, and you procure the meticulous attention to your affairs of our attorney, Edward Jacobson, who has repeatedly demonstrated an exceptionally keen and creative mind in our behalf. For this yearly levy you not only purchase many personal services but you sustain an organization that provides at once a pedestal and a loud-speaker for you in making known your ideas and wishes in every area from public health to politics.

A very good case could be made for the opinion that this is the most economical $60.00 any doctor ever spends. What do you get for an equal amount if you take a few friends out for dinner or if you sneak inside your wife's favorite dress shop? Perhaps the right emphasis is not what the physician gets for his $60.00 but what he is accomplishing with it. Perhaps, when its members realize the encompassing work that their Association does for them in Arizona and when they foresee the potential for further service, they will insist through their representatives to the House of Delegates that their dues be raised. Then an enlarged staff can perform the functions of ARMA more expeditiously, more thoroughly, and in more telling detail, and Arizona's doctors can contribute increasingly to the development of the house of medicine in a demanding but stimulating future.

PROFESSIONAL COMMITTEE

Meeting of the Professional Committee of The Arizona Medical Association, Inc., held July 24, 1960.

ORGANIZATION

Aging — Samuel J. Grauman, M.D.

Cancer and Medical Education — Robert B. Leonard, M.D., and Paul J. Slosser, M.D.

Doctor Slosser to be associated with Doctor Leonard on Medical Education.

Civil Defense and Safety — Howard W. Kimball, M.D.

General Medicine — Orin J. Farness, M.D., Chairman, and Lowell C. Wormley, M.D.

Doctor Farness being the Chairman of the subcommittee on General Medicine, is to incorporate, in addition to the Poisoning Control information, also liaison with Allied Medical Specialties and Rural Health and Rural Placement Distribution of doctors.

Hospital — Nursing — Hard-of-Hearing—Blair W. Saylor, M.D.

Maternal and Child Health — Richard B. Johns, M.D.

Mental Health — Otto L. Bendheim, M.D.

Rehabilitation — Industrial Health—(Crippled Children) — Ray Fife, M.D., Chairman, and Thomas H. Taber, Jr., M.D.

Venereal Diseases — Paul J. Slosser, M.D.

In directives from the President of the Association, this Committee was oriented as to projects which will be considered by the Professional Committee during the coming year, including:

(1) Revision of the Medical Practice Act of Arizona providing for an adequate professional law;

(2) Fee Schedule based on relative values for medical services;

(3) Rural placement of physicians in areas not now supplied;

(4) Hospitalization needs of the State;

(5) Care of the indigent, aged and aging; and

(6) Relationship between organized medicine and the osteopathy branch of the healing arts.

With this basic background, the Committee proceeded with the various subcommittee reports.

SUBCOMMITTEE REPORTS

Aging

Doctor Grauman, reporting on the problems of the Aged and Aging, presented a letter from a representative of the Youngtown (Committee on Medical Service) group near Phoenix, requesting information referable to a community physician in that area of a population of some fifteen hundred people, fifty years and older in age, who have no medical doctor at the present time. Request for information and aid in assuming and formulating a health plan to include *preventive* as well as corrective medical care was sought.

After considerable discussion it was determined further information is required both from the requesting group as well as from Blue Shield/Blue Cross before any decisions are made.

It was resolved to appoint a member from the Internal Medicine liaison committee from the Maricopa County Area to meet with the spokesman from the Youngtown group, along with a representative from Blue Shield/Blue Cross, to gain information referable to the second and third paragraphs of the letter received from the Youngtown group, and report back to this Committee at its next meeting.

It should be noted that in addition to the information requested by the Youngtown group, there is need for consideration of zoning and organization of such towns making available areas for medical clinics and so forth, all of which will be considered after the requested report has been received before the next meeting of this Professional Committee.

The recent report of the American Medical Association on the Aging and Aged referable to Forand-type legislation and providing medical and rehabilitative care for the aged was considered, the following resolution having been adopted:

It was moved, seconded and unanimously carried that the Professional Committee recommends that the Board of Directors of The Arizona Medical Association apprise the Governor and the Governor's Committee on Care of the Aged of our strong support for legislation that will keep the management of the problems of the aged on the local city and county level, based on extensive study by this Committee of all facets of the problems of the aging, as they are now being considered on a national level and as set forth in the statement of the American Medical Association, reporting on House Bill 12580, 86th Congress, dated June 27, 1960.

Cancer — Medical Education — Venereal Diseases

The problems of the subcommittee on Cancer was reported on by Doctor Leonard and recent literature circulated throughout the State referable to "Krebiozen" in the treatment of cancer was discussed.

It was resolved that the Arizona Medicine Journal be requested to point out to the members of the Medical Association the need for critical evaluation of pamphlets such as the one recently distributed throughout the State, and

point up, also the lack of demonstrable active substance in the "Krebiozen" medication and the lack of adequate testing of this therapeutic agent in the treatment of cancer; also pointing up that there are generally sound medical grounds for viewpoints other than those reported in this particular pamphlet.

Civil Defense and Safety

The Civil Defense Subcommittee report by Doctor Kimball pointed up the potential need for the establishment and availability of federal and medical teams to serve the medical needs in the instance of catastrophe. It was further reported that the State Department of Health anticipates obtaining a full-time U. S. Public Health Service doctor to correlate medical problems, associate with Civil Defense, particularly with respect to assignment of doctors to heavily-populated areas and to civilian defense hospitals in low-populated areas, in order that these planned hospitals will have adequate staffing in the event of a civil emergency.

Crippled Children — (Rehabilitation — Industrial Health)

Doctor Taber, subcommittee chairman on Crippled Children was not present and no report from him was forthcoming.

General Medicine

Doctor Farness reported that during a recent meeting the availability of poisoning control information file cards in the Department of Pharmacology in the University of Arizona was discussed. It was the feeling that this information should be made available to osteopathic hospitals in the interest of better care for patients in their institutions. The Professional Committee sees no objection whatever, and in fact favors making such file freely available to osteopathic hospitals.

Doctor Farness further reported request for information referable to nutrition and dietary studies through the State. Apparently little is being done insofar as anyone knows in this area. No action was taken on this particular problem.

The question of the Association approving and sponsoring the "Dietary Control Week" activity in this State was considered. It was determined by the Committee that such activity is not a function to be sponsored on the State level, but, rather, on a local county medical society level, as they see fit.

With respect to the Tuberculosis control policies of the Veterans Administration, no action was taken by this Committee since it is the opinion of the subcommittee chairman, following his review of existing State laws, that they cover adequately the problem, associate with the Veterans Administration, and if the State laws are invoked, it will cover all requirements considered in this report.

The problem of rural placement of physicians was considered at this point. No action was taken. However, this will be pursued at later meetings of the Committee and information will be sought from all its members before coming to any denite decision.

Hospital — Nursing — Hard-of-Hearing

Report of the subcommittee on Hospital and Nursing Problems was given by the Chairman of the Committee as a whole, since Doctor Saylor was newly appointed and has not had time yet to acquaint himself with the material in his file.

The problem of the North Mountain Hospital in Phoenix (Maricopa County) was brought up, and after discussion it was the unanimous opinion of the Committee that the resolution forwarded to the Board of Directors of the State Medical Association be reiterated as it was originally forwarded to them, without modification and with a strong feeling that there is need for aggressive action along the lines recommended in this report, for resolving the North Mountain Hospital-Doctor Hall problem.

Maternal and Child Health

In the absence of Doctor Johns, Doctor Leonard read the former's report, which embraces the following recommendations:

(1) The Committee recommends that the Board of Directors be notified that the doctors in Arizona should be given the information in a report from the AMA Council on Food and Drugs regarding the product Enzylac;

(2) That the State Board of Health undertake a study referable to Perinatal and Prenatal problems in the hospitals, gathering together statistics in a progressive study and publishing the results for the information of this Association. As far as initial and voluntary studies in the State are concerned, and from the Maternal and Child Health standpoint, Doctor Grauman points out that at this time a Mrs. Grace Ryan, through the Southern Arizona Health Association, refer-

ring to Mr. Virgil Hancock as the Director of this, is doing some study in the trigonal and voluntary problems in the State, and it is recommended to Doctor Johns that if he sees a need for pursuing this problem further, he contact this source of information; and

(3) That no action be taken by the Professional Committee on the problem of silver nitrate prophylaxis of opthalmia neonatorium.

Mental Health

Doctor Bendheim not being present, no report was available.

Rehabilitation — Industrial Health

In the absence of Doctor Fife, his report was read and incorporated in the files of the Committee. However, no action will be taken thereon until the next meeting when Doctor Fife is present to specifically make recommendations on the various findings that he has gathered from studies on rehabilitation activities in this State.

OTHER BUSINESS

Florida Medical Association

A report from the Duval County Medical Society, Florida, referable to problems associate with hospital accreditation, involving infringements on the rights and privileges of the practicing physician to maintain his integrity, was considered.

It was moved, seconded and unanimously carried that the Committee recommends to the Board of Directors that the Association register its approval and concurrence in the Duval County (Florida) Medical Society's findings, and take similar action to be implemented through our Delegate to the A.M.A.

Blue Cross/Blue Shield

New Business was brought up by Doctor Farness in two categories. Doctor Farness, on the basis of problems of hospital bed availability and care of chronic illnesses, pointed out the accreditation of Comstock Crippled Children's Hospital in Tucson as meeting the requirements for accreditation and acceptance for adequate care on inpatient level of medical and convalescent crippled children's work, and pointed up the need for this essential service to be recognized by Blue Cross and measures taken to implement Blue Cross-type of coverage for this particular organization in Tucson. In addition to this, the inequities of emergencies, both medical and surgical, being taken to the county hospitals, which are fully accredited in both Maricopa and Pima Counties, was discussed with respect to Blue Shield/Blue Cross failing to recognize charges for payment from admissions to these two hospitals for patients who are covered by Blue Shield and Blue Cross.

It was moved, seconded and unanimously carried that this Committee recommend to the Board of Directors that serious consideration be given to enacting measures so that county hospitals, and specifically the Comstock Children's Hospital, be included in reimbursement for those insured by Blue Cross and Blue Shield.

It was determined to defer consideration of Doctor Farness's second topic dealing with representation on the Arizona State Board of Health.

Lorel A. Stapley, M.D., Secretary

PROFESSIONAL LIAISON COMMITTEE

Meeting of the Professional Liaison Committee of The Arizona Medical Association, Inc., held in the Convention Center of the Safari Hotel, Scottsdale, Arizona, Sunday, July 31, 1960. Noel G. Smith, M.D., chairman, presiding.

SUBCOMMITTEE REPORTS

Allied Professions

Robert H. Cummings, M.D., chairman of the Subcommittee on Allied Professions, being unable to attend this meeting, submitted a report of that subcommittee's activities and recommendations in its meeting held March 23, 1960. The recommendations of the subcommittee with regard to a complaint by The Arizona State Pharmaceutical Association vs. Philip D. Windrow, M.D., regarding dispensation of unlabeled drugs are listed as follows:

"1. Dr. Windrow is found to be innocent of any improper conduct, either ethical or legal, in carrying out a research project, at no expense to the patient, for the aforementioned company.

2. The company is well aware of the legality of making this medication available to individuals for investigative purposes, thus complying with the state laws in this matter.

3. It is still our belief that scientific investigation is to be encouraged by all those allied in the practice of medicine.

4. The secretary of the Arizona State Board of Pharmacy was, at least, guilty of making unfounded charges, by virtue of giving credence to rumor and failing to properly investigate these charges."

It was moved, seconded and unanimously carried that the subcommittee's recommendations be approved with the further recommendation that a strong letter in this regard be written to Mr. Duncan, Secretary of the Arizona State Pharmaceutical Association.

Letters regarding liaison meetings with the Arizona Podiatry Association and the Arizona Osteopathic Society of Physicians and Surgeons over the signature of Lindsay E. Beaton, M.D., President, were reviewed and it was directed that copies thereof be forwarded to Doctor Cummings for his review together with the directive to establish such meetings with these groups.

It was further determined that Doctor Cummings be requested to contact Stanford F. Farnsworth, M.D., Director — Maricopa County Health Department, obtaining information on the "staph" problem at Mesa General Hospital (Osteopathic) prior to meeting with the Osteopathy representatives.

It was further directed that Doctor Cummings obtain a copy of the Podiatry Act of the Arizona statutes, making recommendations to the committee regarding the Podiatrists' use of drugs, injectables, surgery, etc., prior to liaison with the representatives of that group.

Careers and Arizona AMEF

It was reported by Doctor Noel G. Smith, that Chester G. Bennett, M.D., assigned as chairman of the Subcommittee on Careers and Arizona AMEF had submitted his resignation to the committee.

It was directed that the President, Lindsay E. Beaton, M.D., be strongly urged to appoint Dermont W. Melick, M.D., as a member of the Professional Liaison Committee urging acceptance of such appointment in that he is the most likely member of the society to initiate and activate this very important program on careers.

It was further directed that copies of the AMA brochure entitled "Program Materials on Medical Careers for High Schools — Colleges — Communities" be forwarded to each member of the Professional Liaison Committee for study and review.

Governmental Medical Staffs

William G. Payne, M.D., chairman of the Subcommittee on Governmental Medical Staffs, reported on the results of investigation of the medical services offered employees of Navajo Ordnance Depot at Flagstaff and it was determined that the indemnity insurance program provided government employees recently initiated and activated by the Federal Government will aid immensely in overcoming and correcting the aforementioned problem.

It was further directed that on receipt of communication from the Medical and Chirurgical Faculty of the State of Maryland regarding the information sought pertaining to the "Dean's Committee" having to do with non-service connected disability care in VA hospitals, be forwarded to Doctor Payne for review and report following receipt thereof.

On the report that the Randolph Schol (Arizona Children's Colony) did not have a Medical Advisory Board, the Subcommittee on Governmental Medical Staffs was directed to formulate requirements of all state supported schools regarding their needs for Medical Advisory Boards and prepare recommendations for the Committee's action.

Nurses

Max Costin, M.D., chairman of the Subcommittee on Nurses was directed to contact the President, Lindsay E. Beaton, M.D. for results of his communications with Arizona State Nurses Association officer(s), continuing liaison with the Arizona State Nurses Association and the Licensed Practical Nurses Association.

Association of Physicians and Surgeons

Lavern D. Sprague, M.D., chairman on the Association of Physicians and Surgeons being unable to attend, no report was given.

Public Health and Schools

Ben P. Frissell, M.D., Chairman of the Subcommittee on Public Health and Schools, reviewed past efforts of this Association in the Arizona State Legislature with reference to the current raw milk statutes.

It was directed that Doctor Frissell prepare a report on the subject, submitting the same to the Executive Committee with the recommendation that the Legislative Committee take appropriate action in the matter.

Public Health — Commisisoner — Arizona State Department of Health — Replacement

Doctor Frissell reviewed the activities of the Committee during the last session of the Arizona State Legislature in increasing the salary and other benefits for the Commissioner of the Arizona State Department of Health. It was the consensus that selection of a com-

missioner should be a requirement of the Arizona State Board of Health, however, the subcommittee will and does volunteer its services for screening and interviewing candidates for the position.

Schools

Noel G. Smith, M.D., Chairman, former chairman of the Subcommittee on Schools, reviewed the activities of that subcommittee during the fiscal year 1959-60, its report and recommendations to the Board of Directors of the Association for the committee's information. In view of that recommendation, it was a suggestion that local public health departments be requested to initiate a program of pre-school clinics for the children of medically indigent families, the working staff to be provided by public health departments. Where public health departments are not available, the private physician will be requested to donate his services, working through the component county medical society.

To initiate the program and obtain information regarding the availability and willingness of the members of the State society to donate their services as consultants in school health in this regard, it was determined that Doctor Smith would prepare a letter to be forwarded to all members of the society.

Methods of initiating such a program were discussed at length. The consensus favoring the possibility of a seminar or annual workshop for volunteers, followed by notification to school administrators and school nurses that the volunteer in the community would be available for consultation.

It was moved, seconded and unanimously carried that Doctor Smith's recommendations be forwarded to the Executive Committee for approval and immediate action.

Woman's Auxiliary

Ernest A. Born, M.D., Chairman, being unable to attend this meeting, no report was given.

Lorel A. Stapley, M.D., Secretary

BENEVOLENT AND LOAN FUND COMMITTEE

Meeting of the Benevolent and Loan Fund Committee held July 28, 1960.

MINUTES

It was moved, seconded and unanimously carried that, following the granting of a loan, the Registrar of the school of record be notified that a loan had been granted to the applicant, but that the money would not be disbursed until he was duly registered for the school year. Upon proper notification of official enrollment for the school year from the Registrar to the Association's Central Office, the check would issue.

Discussion followed on mechanism of disbursing funds, resulting from advice to the Committee that one applicant found it unnecessary to withdraw the entire $1500 applied for and granted. It was the concensus of the Committee that such an applicant might, in later years of medical school, withdraw funds up to the original grant without further Committee action. It was felt that the disbursing officer(s) might suggest to applicants that the funds granted not be withdrawn in one lump sum but, rather, that funds be issued as need arise therefor at intervals throughout the school year, but in no event for more than the total amount of the grant.

It was also the concensus of the Committee that loans for the fifth year of medical school (internship) be considered only on special request for such consideration and thorough investigation as to reason therefor.

Katherine Willingham

The loan of Katherine Willingham, approved on August 23, 1959, and never completed since the final application was not filed, was further reviewed.

It was moved, seconded and unanimously carried that the approved loan to Katherine Willingham be rescinded; and should Miss Willingham desire future consideration for a loan, that she be required to start as a new applicant.

Paul Bernard Comer

The application of Paul Bernard Comer for a loan pending his matriculation in Baylor University Medical School was considered.

It was moved, seconded and unanimously carried that the loan to Mr. Comer be approved, in the amount of $1500, and that Mr. Comer be so notified.

Ronald B. Minson

The application of Ronald B. Minson was reviewed by the Committee.

It was moved, seconded and unanimously carried that this application be approved and a loan in the amount of $1500 be approved, upon his matriculation in the University of California,

Los Angeles, Medical School, in September, 1960.

Charles Arthur Frazer

A loan application from Charles Arthur Frazer for the second consecutive year in the amount of $1500 was considered.

It was moved, seconded and unanimously carried that the loan in the amount of $1500 be approved, subject to Mr. Frazer's matriculation and registration in Tulane University Medical School in September, 1960, and on receipt of anticipated response from his references.

Thomas Michael Hudak

An application for a loan for the second consecutive year by Thomas Michael Hudak, in the amount of $1500, was also considered by the Committee. Mr. Hudak's application has not as yet been completed; however, the previous application, together with letters of recommendation received, were studied.

It was moved, seconded and unanimously carried that this loan in the amount of $1500 be approved, subject to receiving the properly completed application and anticipated response from references referred to therein.

TRUST FUND ACCOUNT

It was reported that the Valley Bank has expressed an interest in handling the Benevolent and Loan Fund as a trust. Doctor Dudley suggested that we request of the Valley Bank a concrete proposal to this effect. It was also suggested by Doctor Brown that inquiry be made of the Bank of Douglas as to whether they have any suggestions or proposals to offer.

Respectfully Submitted
Lorel A. Stapley, M.D., Secretary

PUBLIC RELATIONS COMMITTEE

Meeting of the Public Relations Committee of The Arizona Medical Association, Inc. on Saturday, July 30, 1960.

ORGANIZATION

Doctor Young reviewed the remarks of the Board of Directors of the Association in its meeting held June 5, 1960, referable to a program of publicity through paid advertising, together with the directive that the Public Relations Committee undertake a study of the problem and submit recommendations to the Board at its next meeting.

Considerable discussion was held and many valid ideas were presented with thought towards development of an active public relations program; the availability of the source of complaints directed toward the doctor of medicine; ways and means of obtaining facts regarding such complaints; and the possibilities of formulating a plan whereby such complaints may be aired without undue criticism directed to medicine.

A review of the program of the American Medical Association's Public Relations Conference, scheduled to be held in the Drake Hotel, Chicago, on September 1 and 2, 1960, was presented for the committee's information and discussion was held in that regard.

It was moved, seconded and unanimously carried that Doctor Young represent this committee and the Association at its expense during the Public Relations Conference aforementioned, to be held in Chicago on September 1 and 2, 1960.

It was the expressed hope of the committee that AMA could provide a strong background and basis for an active Public Relations program in Arizona.

The Central Office of the Association was directed to obtain details of the program for public relations through paid advertising as is currently indicated in effect through the California Medical Association.

It was suggested that a questionnaire be forwarded to each component county medical society and possibly each member of the Arizona Medical Association for suggestions and recommendations toward accumulating facts on complaints on the complainants' "home grounds" and possible means of providing settlement in a like fashion.

Respectfully submitted,
Lorel A. Stapley, M.D., Secretary

LOCAL OPPORTUNITIES

ASHFORK — Population 700. North centrally located — Railroad center. Contact the Women's Club, Ashfork, Arizona.

BAGDAD — Population approximately 2,000. Opportunity for GP who is willing and able to do obstetrics and general surgery. Mining community. New 12-bed hospital. Excellent income possibilities with initial guarantee. Second doctor needed due to increased volume of work. Excellent housing and schools. For further infor-

mation, contact Richard G. Hardenbrook, M.D., Bagdad Hospital, Bagdad, Arizona.

CAMP VERDE — Located in the heart of a large farming and ranching area on the Verde River. Approximately 100 miles north of Phoenix. Badly in need of a medical doctor. Contact Ivy N. Moser, R.N., Camp Verde, Arizona.

COOLIDGE — Excellent opportunity for a GP. Population 5,000 — in addition to servicing surrounding farm area. Nearest hospital located in Florence, approximately nine miles from Coolidge. Currently five physicians serving the area. Office facilities and most equipment, including X-ray, available on rental basis from local M.D. Contact Thomas E. McCormick, M.D., 321 West Central Avenue, Coolidge, Arizona.

EL MIRAGE — Population 2,000 — and including the trading areas of Surprise, Youngtown, Peoria and Luke Air Force Base, the population is estimated at 7,000 to 8,000 persons. Opportunity for a GP due to retirement of doctor currently serving, with the possibility of school service. Climate is excellent, warm and dry. Office facilities are available in the area surrounding El Mirage from Glendale (9 miles) to the east, and Wickenburg (35 miles) to the west, there are only two doctors to serve this community. The need for a physician and surgeon is very real and one should do very well. For information write Mr. H. Faulkner, Town Clerk, Town of El Mirage, El Mirage, Arizona.

ELOY — Need a doctor of medicine, preferably a GP. Population of 4,000 in farming community with several small towns near by. Located approximately midway between Phoenix and Tucson. Contact H. Howard Holmes, M.D., Eloy Medical Center, Eloy, Arizona.

GLOBE — Population 10,000 and including the mining and cattle areas of Miami, Superior, Ray, Hayden, Winkleman, Payson and San Carlos; population estimated at 30,000 persons. Located about two hours by car from either Tucson or Phoenix. No ENT man in the area. Ideal climate, with the best area for outdoor activities. Contact Eugene R. Rabogliatti, D.D.S., 149 S. Broad Street, Globe, Arizona or A. J. Bosse, M.D., 245 South Hill Street, Globe, Arizona.

HOLBROOK — Population approximately 5,500 — elevation 5,080. Excellent opportunity for GP. Arrangements can be made to take over existing vacancy in practice. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Arizona.

MIAMI — Opportunity for GP — Industrial hospital staffed by approximately seven doctors who care for personnel and families of those who work for the three principal mining companies. Community served by many mining and ranching interests. Contact R. V. Horan, M.D., Miami Inspiration Hospital, Miami, Arizona.

MORENCI — Mining community near New Mexico-Arizona border. Population 10,000. Has vacancy at hospital for GP. Contact C. H. Gans, M.D., Morenci Hospital, Morenci, Arizona.

PAGE — Population growing by leaps and bounds at the site of the new Glen Canyon Dam Project. Current estimates are 6,000 to 8,000 total. Only one M.D. is now located in Page and he has facility available. Located about 90 miles north of Flagstaff. Building project is estimated to be concluded in ten years. Write Ivan W. Kazan, M.D., 6th Avenue & South Navajo, Page, Arizona, for full details.

PHOENIX — Maricopa County has several excellent associations (salary or partnership) available in metropolitan Phoenix and surrounding towns in General Practice, Ophthalmology, ENT, Pediatrics and Anesthesiology. Neighborhood locations are also available for GP's. Contact Maricopa County Medical Society, 2025 North Central Avenue, Phoenix, Arizona, AL 8-6901, advising medical training, military and family status, age, health, etc., and enclose small photograph.

PHOENIX — Excellent opportunity for Ophthalmologist or EENT man as associate. Contact E. G. Barnet, M.D., 1120 Professional Building, Phoenix, Arizona.

PHOENIX — State Department of Health-Child Development Center. Opportunity for doctor of medicine (Pd) with three years' experience. Male or female. Monthly salary $690 — full time. Operation includes (a) a doctor of medicine (Pd); (b) two or three psychologists on a consultant basis; (c) a psychiatric social worker; (d) a teacher specializing in child development; and (e) clerical people as required. Scope: Mentally retarded or emotional problems of pre-school children. Contact Mr. Thomas Golden, Arizona Merit System, 11 North 7th Avenue, Phoenix (AL 3-3189).

SNOWFLAKE — Located in Northeastern Arizona is seeking a doctor of medicine. Population approximately 4,000. Nearest hospital located in Show Low, 19 miles from Snowflake. Increased lumber activity anticipated. Mormon

L.D.S. community. Contact F. W. Erickson, D.D.S., Medical-Dental Clinic Building, Snowflake, Arizona.

ST. JOHNS — Seriously need a doctor of medicine, preferably a GP, in this east-central Arizona community. Population is approximately 1,500 with several other small towns in the general area. About 20 miles from New Mexico in the beautiful rim country of Arizona. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Arizona.

TOLLESON — In need of GP. Serves a trading population of from 12,000 to 15,000. Ten miles west of Phoenix, with elementary and high schools, churches of all denominations. Complete office and equipment for GP is available on reasonable term lease or purchase. Contact Mr. F. E. Babcock, President, Chamber of Commerce, 9112 West Van Buren Street, Tolleson, Arizona.

TUCSON — The VA Hospital is in urgent need of a General and Thoracic Surgeon. They prefer someone who is Board certified, but would take someone who has had special training as they have the local men in this field available for consultation service. State license is necessary (but not necessarily an Arizona license). Contact S. Netzer, M.D., Director, Professional Service, VA Hospital, Tucson, Arizona.

WILLCOX — Population approximately 2,000 — and including surrounding area, the population is estimated at 4,000. Immediately in need of a general practitioner and surgeon; must have state license or be eligible for same. Opening for an associate. Office available approximately three (3) blocks from the twenty-bed hospital in community. Tucson, Arizona within a locality of 85 miles. Contact Sotero Antillon, M.D., P.O. Box 867, Willcox, Arizona.

* * * * * *

FOR INFORMATION ON OPPORTUNITIES IN THE FIELD OF INDUSTRIAL MEDICINE, CONTACT:

Harold J. Mills, M.D., Phelps Dodge Hospital, Ajo, Arizona.

Carl H. Gans, M.D., Phelps Dodge Hospital, Morenci, Arizona.

Ira E. Harris, M.D., Miami Inspiration Hospital, Miami, Arizona.

Elvie B. Jolley, M.D., Copper Queen Hospital, Bisbee, Arizona.

H. W. Finke, M.D., Magma Copper Company Hospital, Superior, Arizona.

John Edmonds, M.D., Kennecott Copper Corporation Hospital, Ray, Arizona.

Francis M. Findlay, M.D., San Manuel Hospital, San Manuel, Arizona.

SENIOR CITIZENS-FOR-KENNEDY COMMITTEE

Senator John F. Kennedy announced August 12 that Congressman Aime J. Forand (Dem.—R.I.) has agreed to serve as National Chairman of the Senior Citizens-for Kennedy Committee.

This organization, which will headquarter in Washington, D. C., will concentrate its efforts on voters over 65 years of age and will operate under the overall direction of the Citizens-for-Kennedy Committee.

Congressman Forand told Senator Kennedy he was pleased to accept this appointment because of the lead "Senator Kennedy has taken in legislation for the aged. His sponsorship of the medical care for the aged bill in the Senate, his work to enact legislation to provide housing for the aged and his work as Vice-Chairman of the Senate committee on the Problems of the Aged are all indications of Senator Kennedy's interest in this vital field."

Senator Kennedy said he was honored to have Congressmand Forand head up this vital committee.

Squibb Announces Chemipen

Squibb Alpha-Phenoxyethyl Penicillin Potassium

new chemically improved penicillin which provides the highest blood levels that are obtainable with oral penicillin therapy



As a pioneer and leader in penicillin therapy for more than a decade, Squibb is pleased to make Chemipen, a new chemically improved oral penicillin, available for clinical use.

With Chemipen it becomes possible as well as convenient for the physician to achieve and maintain higher blood levels—with greater speed—than those produced with comparable therapeutic doses of potassium penicillin V. In fact, Chemipen is shown to have a 2:1 superiority in producing peak blood levels over potassium penicillin V.*

Extreme solubility may contribute to the higher blood levels that are so notable with Chemipen.* Equally notable is the remarkable resistance to acid decomposition (Chemipen is stable at 37°C. at pH 2 to pH 3), which in turn makes possible the convenience of oral treatment.

And the economy for your patients will be of particular interest—Chemipen costs no more than comparable penicillin V preparations.

Dosage: Doses of 125 mg. (200,000 u.) or 250 mg. (400,000 u.), t.i.d., depending on the severity of the infection. The usual precautions must be carefully observed with Chemipen, as with all penicillins. Detailed information is available on request from the Professional Service Department.

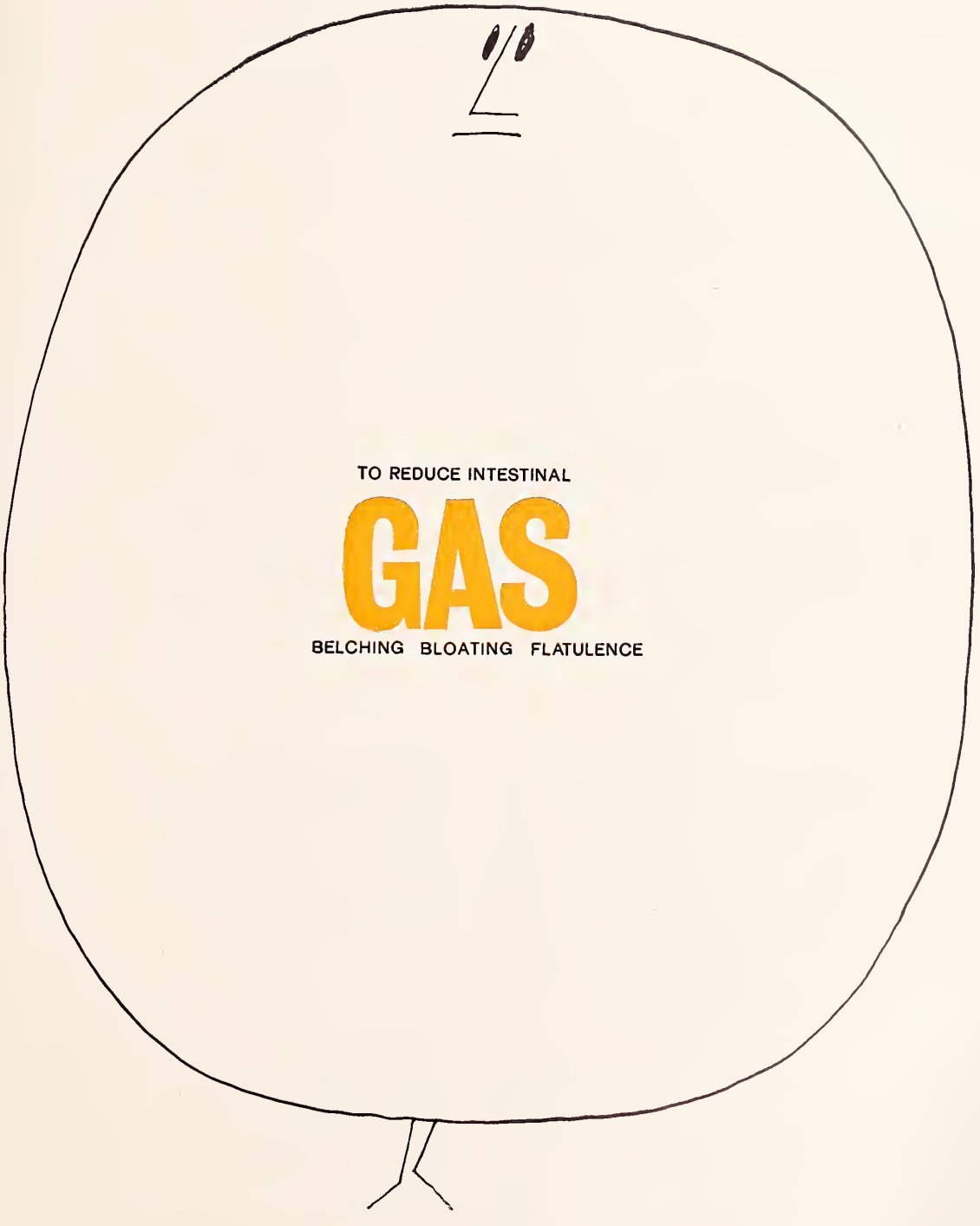
Supply: Chemipen Tablets of 125 mg. (200,000 u.) and 250 mg. (400,000 u.), bottles of 24 tablets. Chemipen Syrup (cherry-mint flavored, nonalcoholic), 125 mg. per 5 cc., 60 cc. bottles.

*Knudsen, E. T., and Rolinson, G. N.: Lancet 2:1105 (Dec. 19) 1959.

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Medical Society of the United States and Mexico

Fifth Annual Meeting

NOVEMBER 8-12, 1960

At this writing, September 6, 1960, the organizational machinery in Guadalajara and Mazatlan continue to grind on toward the target date of November 8. From Tucson we recently attempted to canvass the plans of our American members by means of a return postal card questionnaire, and were able to tally the following results:

Total number of persons planning to attend 155
Number planning to go by train ... 90
Number planning to travel by air .. 60
Number planning to travel otherwise 5

We were told from Guadalajara that, if 150 persons or more committed themselves to go by rail, a special train could be organized. From the above figures, however, it appears unlikely that such a number would be available to travel in this manner, and, therefore, those of us who prefer this mode of transportation, will use the regularly scheduled train which departs from Nogales, Sonora, daily at 5:30 p.m. The round trip Nogales-Guadalajara-Nogales is $47.20. It will naturally be somewhat higher if it includes the leg by way of Mazatlan.

We have been asked from Guadalajara to handle all the announcements, circulars, questionnaires, etc. from Tucson, for the American membership. This we shall be eager to do, as the information trickles in from Mexico and we have the opportunity to pass it on to you by mail. We are particularly anxious to know more details about the scientific program, especially the Mexican contributions. From our side we already have a distinguished roster of American speakers, including, among others, the Commissioner of Health of Arizona, Dr. Clarence Salsbury; also Drs. Lester Dragstedt, John Scarff, Maxwell Lockie, Harry Thompson, and others. We are also most curious to know some of the preliminary details of the social program our hosts in Guadalajara and Mazatlan are preparing for the meeting. Likewise we are anxious to receive instructions from below the border concerning the matter of hotel and train reservations.

Dr. Chavez plans to send us a questionnaire that we will mail our American members within

the next two or three weeks, accompanied by a cover letter containing the latest information available to us on all the points mentioned above.

You are respectfully reminded to initiate negotiations soon with your local travel agent if you wish to travel by air. It is suggested that you secure your Mexican immigration permits from your local Mexican consul rather than at the border. Your attention is also invited to the U. S. Public Health requirement of recent vaccination (smallpox) before re-entering U. S. territory.

We thought you might be interested in seeing a fascimile of the circular letter recently mailed from the Guadalajara headquarters to the Mexican membership recently, in connection with the meeting; it is reproduced below.

SOCIEDAD MEDICA DE ESTADOS UNIDOS
DE NORTEAMERICA Y MEXICO
MEDICAL SOCIETY OF THE
UNITED STATES & MEXICO

Guadalajara, Jal., Agosto 11, 1960

Sr. Dr. J. Gabriel Cortes M.,
M. Bárcena No. 79,
Ciudad.
Estimado señor Doctor:

Corresponde al groupo mexicano de nuestra Sociedad, promover en este año la celebración del evento con que periódicamente cumplimos con el acuerdo que aceptamos como un gustoso compromiso, de acercar cientifica y socialmente, haciendonos un solo grupo, a medicos norteamericanos y mexicanos.

Al efecto ha organizado su
5A. REUNION ANUAL

que se llevará al cabo durante el próximo mes de noviembre, los días 8 y 9 en la ciudad de Guadalajara y 10 y 11 en Mazatlán, el más hermoso puerto de nuestro litoral del Pacífico.

Para tal ocasión, deseamos recordarle la importancia de su asistencia y la conveniencia que para el mejor éxito de nuestra celebración representa, el que se sirva usted aceptar la invitación que en forma muy especial nos permitimos hacerle, para que presente Trabajos, los que deberá inscribir con el suscrito, antes del día, próximo mes de septiembre, en Pavo 112, Desp. 103, de Guadalajara, Jal.

DR. EDUARDO CONTRERAS REYNA
Secretario

ECR/ocv.

YOUR PROFESSIONAL
GROUP ACCIDENT AND SICKNESS INSURANCE POLICY

Approved and Recommended by Your Insurance Committee and Board of Directors

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A Program Designed For The Members Of

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For Complete Information
CONTACT
CHARLES A. DELEEUW
3424 N. Central Ave. — AMherst 6-2403

PIMA COUNTY REPRESENTATIVE
RONALD DEITRICH
725 East Broadway MAin 3-0583



in infectious disease[1]
in arthritis[1]
in hepatic disease
in malabsorption syndrom
in degenerative disease[6,]
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Editorial

THE POLITICAL DUTY OF MEDICINE

Physicians, since time immemorial, have had a genuine interest in the total welfare of man. It is axiomatic that the health of the people cannot be separated from their social, economic, emotional, and political existence. Therefore, whenever Government threatens to control these facets of life we must become actively concerned in order to fully discharge our obligations.

Politicians have been branded as "dirty", therefore we have been reluctant to jeopardize the dignity and integrity of our noble profession. We have failed to remember that we have entrusted these "dirty-politicians" with our political future. We must also realize that these same politicians have been the most vociferous in admonishing us to confine our efforts to the sick and leave the politics to them. This they have done because they are more aware of, than we, of our potential influence which might be contrary to their selfish motives.

There were four physicians who with full knowledge of their respective responsibilities pledged their "lives...fortunes...and...sacred

ARIZONA MEDICINE

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

honor" when they signed the Declaration of Independence.

There are many sincere honest politicians who are dedicated to the preservation of our Constitional Government and its provision for continued freedom . . . we must join them before it is too late . . . we must join them not only in thought but positive actions . . . it is later than most of us are willing to admit. Socialism is here in part, and its completion is potentially just around the corner of Nov. 8, 1960.

Our problem can no longer be confined to whether or not the Forand Bill becomes law or that we be included in an insolvent social security system. The whole question can be simply stated . . . will we and the citizens of these United States be able to retain the Rights and Freedom contained in our Constitution and the Bill of Rights?

Our patients think of us not only as ministers of their health, but educated leaders from whom they would seek counsel and direction. We must with revived vigor and sincerity, without fear or timidity, exercise our over-all purpose.

Politicians control the actions of government, hence we are obligated to become politicians if we choose to protect not only our personal interests but also the well-being of all mankind. We must not default.

LBS

CIVIL DEFENSE IS A FULL-TIME JOB OF THE PUBLIC HEALTH DEPT.

Suddenly in recent weeks, after much lethargy, certainly no more than a "do-nothing" attitude for 10 years, some of the people of Tucson are becoming interested in a Civil Defense program. Possibly this same interest is developing in Phoenix and over the state — probably not, for only in Pima County have the people been forced to think of the prized target they will make with the establishment of the Titan missile bases and the Davis-Monthan bomber facilities.

While this is a prized target, there are many reasons that the Hoover Dam, the bridges across the Colorado and a population center as Phoenix all are targets.

Again we are forced to ask what has been done on a national, state and county level to implement a reasonable Civil Defense force. Reams of paper and directives have been issued, but is there an effective organization? I do not believe so. The "do-it-yourself" policy is non-productive.

We are not taking satisfactory steps to protect our people. We have not had satisfactory leaders.

There are many aspects of Civil Defense that are not medical in nature, and this does call for an organization of lay personnel. However, such a great part of the program must be carried out by the medical profession that it is imperative that a satisfactory and complete organization be established. This can only be done through the Public Health Department.

There should be a full-time employee of that department implementing on the state level the recommendations made by the national offices of Civil Defense. This cannot be done in a haphazard manner by part-time or volunteer personnel. Some of these appointees have never accepted the philosophy that Civil Defense can be an effective arm in our defense program. The fatalistic attitude, the acceptance of defeat by every obstruction, has no place in this organization.

We continue to talk that we are in a crucial struggle with Communism. We must accept that Civil Defense is a life insurance program. It must be established on a complete and efficient basis. Further delay cannot be tolerated, and all segments of our government are guilty of condoning this delay and relegating a Civil Defense program to a very subordinate position.

We can no longer take the attitude to let someone else do it. Medicine must lead the way to an effective organization.

DWN

MEDICAL CARE FOR THE AGED

The Forand-Kennedy Bill and the Nixon Bill have been defeated by our national legislative bodies. However, the new federal-state program that is to become effective October 1st, and which will probably become operational gradually, will help finance medical care for (1) the 2.4 million persons over 65 who are on relief rolls and (2) other needy persons over 65 who aren't so destitute they qualify for relief checks for food and housing but still don't have resources enough to pay for needed medical at-

tention.

Coverage will depend upon the action our state legislature takes to share in this cost and the number of elderly persons who will pass the "means test". This latter to be prescribed by each state.

Let us act now to participate in the establishment of a fair and equitable law that will meet the needs of the people and yet will not be a fraud upon the doctor. Let us not deny the existence of this legislation — the vote of Congress was overwhelming, 368 to 17; we must accept this as the desire of the public and not go our willful way and state that we will accept no dictates on how we will practice medicine. This law does not dictate how we will practice medicine. It is an effort to provide actual benefits for some per cent of the 16 million persons now over 65 but who cannot meet their own needs.

It is suggested that whatever plan is adopted by the state that medical social workers be employed to screen the applicants and that the criteria for reductions of the physicians' fees be determined by a special committee on which the society has strong representation. Persons certified for reductions should receive a card indicating percentage reductions to be allowed or even the recommended fee.

Certainly the object of the plan must be to maintain better and more easily available medical services for elderly persons, to adjust charges according to their ability to pay, to develop a plan that will have the co-operation of the medical profession and to maintain a *freedom of choice* of physicians by the patient.

DWN

NURSES PAY

The listing by *World Wide Medical News Service* that Canadian doctors top the income list ahead of architects, engineers, lawyers, etc., is disturbing in view of the fact that the lowest paid among professional groups are the nurses.

This disparity carries into American medicine. It deserves further evaluation and calls for adjustments. To expect a medical team to operate efficiently with one unit of it paid on the average less than $200 per month (in Canada) does not give satisfactory consideration for the ability of those working with us.

Medical care has become a team function; and while we all agree that the advances of medicine have made it possible for the doctor to have a very acceptable income, the income of the paramedical members of the team has not been properly adjusted.

We need their help, allegiance and co-operation. Improvement of their financial return will bring this about along with obtaining an improved calibre of nurses and technicians entering these allied fields.

DWN

Editor — ARIZONA MEDICINE
Dear Sir:

I wish to call your attention to the Cooper Bill S. 3570 that is now before the Senate Labor and Public Welfare Committee. The stated intent of this bill is said to be for the purpose of providing humane treatment for experimental animals. However, it is evident from studying the bill that the intent is to regulate scientists and their use of animals and eventually, by additional legislation, prohibit entirely the employment of certain types of animals for research.

The German and British scientists are presently suffering from such a law. American researchers have been able to take the lead in many areas of medical importance because they have not been hampered by such restrictive legislation.

As you know, man is still plagued by numerous ills that will require many more years of careful animal experimentation. Nothing should be permitted to deter our efforts in providing the necessary knowledge for the betterment of mankind.

I know of no scientists that deliberately mistreat experimental animals. As a matter of fact, they are frequently provided with better housing and care than can be afforded for staff personnel.

I wish to take this opportunity to urge that the individual members of the Arizona Medical Association vigorously oppose Bill S. 3570. If it becomes law, biological and medical research in this country will suffer a tremendous "setback."

It is important that men practicing medicine

become familiar with this most undesirable bill and express their views to our state senators, Barry Goldwater and Carl Hayden. In addition, a letter to Senator Lester Hill, Chairman of the committee on Labor and Public Welfare, would not be amiss.

Sincerely yours,
KENNETH WERTMAN, Ph.D.,
Head of the Department
Bacteriology Medical Technology,
University of Arizona, Tucson

Darwin W. Neubauer, M.D. Editor
Arizona Medicine
1021 Central Towers
Phoenix, Arizona

Dear Doctor Neubauer:

This is my letterhead. It is designed by a teenager. It indicates that there is so vastly much more to be uncovered by THEE PHYSICIAN (not the test-tube bunsen burner guy) that I pose these illustrations to emphasize that fact.

I'll be eighty years young March 3, 1961. Sixty-two years Sept. 1, 1960 I entered Trinity Medical College, Toronto, Can., graduated May 30, 1902. Have been on assignments in Canada, U.S.A., Mexico, Europe and Africa.

I would have you know that I am interested in cooperating with Arizona Medicine. A writer can get several stories of first hand study, practice research and experience, I feel would prove invaluable to my profession. I do not fall for the impractical overtechnical. Neither do I like the sophistry running loose in the Press. I would suggest more true to life personal observations and work in very simple language with simple well interpreted art illustrations. It would interest me very much to give some time to a writer and illustrator visualizing.

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DUKE R. GASKINS, M.D.
MEDICAL DIRECTOR

October 1, 1960

Re: Guaranteed Renewability

Dear Doctor:

We are happy to see that many of you Doctors are advocating all people should have hospital protection that is Guaranteed Renewable for Life.

We hope that you will continue to urge your patients to insist on having a Guaranteed Renewable for Life hospital policy.

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Duke R. Gaskins, M. D.
Medical Director

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In Memoriam

LEO J. KENT, M.D.

1913 - 1960

Dr. Leo J. Kent, internist, and a Tucsonian for the past 14 years, died June 5 of Hodgkin's disease. He had been prominent in Tucson medical and civic organizations and had continued a full practice until within a few days of his death.



Leo J. Kent, M.D.

Dr. Kent was born in Detroit, Mich. on August 13, 1913. He was a graduate of Northwestern University where he was a member of the varsity football team and the track team. He was a member of Northwestern's "N" Men's Club, Beta Theta Pi social fratrnity and Nu Sigma Nu medical fraternity.

He received his M.D. degree from Northwestern Medical School in 1941 and served as intern and resident physician at Evanston Hospital.

During World War II, Dr. Kent served with the U.S. Navy in the South Pacific for three years and was awarded the Purple Heart and the Distinguished Service Medal. Upon discharge he held the rank of Lieutenant Commander. He was presented with an Award of Merit by Northwestern as one of the two alumni who contributed most to the war effort.

Dr. Kent was instrumental in forming the Pima County Medical Legal Panel and was a member of the Pima County Medical Society Grievance Committee.

He was a past president of the Pima County Medical Society and was a member of the society's board of governors for the past six years. He had served as chairman of the Public Relations Board and as a member of the Legislative Committee for the Arizona Medical Association.

He was a charter member of the Medical Society of the United States and Mexico and also a member of the American Medical Association.

Dr. Kent was a past member of the board of directors of the Arizona Blue Cross and also a past member of the board of directors of the Tucson Chamber of Commerce. He had been a member of Tucson Rotary International and was a member of the Tucson Country Club. He served on the Citizens Committee for Hospital Planning in Tucson.

He had been honored with membership in Sigma Xi, national scientific fraternity, for his research on Dicumarol.

His wife, Bonita, resides at 4215 E. Cooper St., Tucson, with their daughter, Kathy Ann, and son, Tyler John. His mother, Mrs. Leopold A. Koscinski, and a sister, Mrs. Marion Carey, are both of Chicago.

Dr. Walter Hileman, 1959-60 president of the Pima County Medical Society, issued the following statement for the society:

"Dr. Kent's response to a grave disease with a known fatal prognosis was to all his colleagues a daily source of strength. His courageous fight, hsi devotion to his family and patients, his selfless service to the Pima County Medical Society and the Tucson community constitute a living memorial from which we may all be long inspired."

S. I. BLOOMHARDT, M.D.

1891 - 1960

With the passing of Dr. S. I. Bloomhardt, the medical profession has lost one of its oldest and most respected members and the community has lost a lovable and unusual personage. Si was born in Altoona, Pennsylvania, in 1891, took his premedical work at Gettysburg College and enrolled in the Medical School at the University of Pennsylvania in 1911, graduating in 1915. Soon after this, he enrolled with the University of Pennsylvania Overseas Detachment, which was to serve with the British and the French, since the United States had not joined in the World War at that time. He served over twenty months, principally in base hospitals located fairly close to the front lines, however, and had considerable experience in the introduction of Carrell-Dakin's solution for the treatment of infected wounds and was closely associated with the introduction of early skin grafting in war injuries.

At the end of the war he returned to Philadelphia and immediately became associated with the Orthopedic Department of the Graduate



Samuel I. Bloomhardt, M.D.

School of the University of Pennsylvania. He served as Assistant Surgeon, Pennsylvania Hospital, until 1922, as an Assistant at the Orthopedic Hospital in Germantown Hospital in 1922 and 1923, and was an instructor in the Graduate School at the University of Pennsylvania from 1921 to 1924.

Due to ill health, however, he was forced to relinquish his teaching positions and came to Arizona in search of his health.

A short time after he came to Phoenix, he be-

came associated with a pioneer physician, Dr. Robert W. Craig, whose daughter Kitty he subsequently married.

He continued his association with Dr. Craig until 1932, at which time Dr. Craig retired, and Dr. Bloomhardt moved into the recently completed Professional Building.

Although his practice of medicine was general in type, he had certain leanings toward orthopedic surgery as a result of his early training and became interested in industrial medicine as he began to develop the medical department of the Central Arizona Light and Power Company (now the Salt River Valley Project). He



Samuel I. Bloomhardt, M.D.

was keenly interested in all industrial medical problems, and was credited with the development of new and improved techniques for the treatment of electrical burns.

Dr. Bloomhardt was on the active staff of St. Joseph's and Good Samaritan Hospitals, and was President of the Maricopa County Medical Society in 1934. He took an active part in Society affairs, and made several presentations of papers and discussions, principally concerning industrial and surgical problems. When this country mobilized for war early in 1940, Dr. Bloomhardt was appointed to the Final Board of Appeal of the Draft Board, where he served with distinction during the war period, and indeed up until the time he was forced to retire in 1955.

Although Dr. Bloomhardt enjoyed a large practice and was well and favorably known among his medical colleagues, he was probably better known for his interest in all affairs equestrian. Together with Dr. Luther Goodspeed, a dentist, Frank C. Brophy, George Judson and others, he organized the Westward Ho Riding and Polo Club, which was located on Missouri Avenue at Kay Drive. Here under the stimulus of this enthusiastic man, polo thrived for many years. He was also interested in arranging horse shows, breeding and training of race horses, and while spending the summer in Prescott, he organized a quadrille dance team on horseback which performed for several years.

This somewhat perfunctory account of Dr. Bloomhardt's accomplishments utterly fails to give any insight into the extraordinary character of this lovable if somewhat whimsical individual. On the polo field, he was a formidable and ruthless competitor, yet in his back yard he set aside a plot of ground as a burying place for his dogs, cats and canary birds. He enjoyed the society of the well-born and the well-placed, yet at the same time he was the personal physician to a coterie of ex-pugilists, broken-down jockeys, stable boys and rodeo performers. When he saw a poor unfortunate who needed some type of service which he himself could not perform, he did not hesitate to cajole one of his colleagues to apply a plaster cast and care for the patient. Animals, especially horses, were his life. Photographs of prize-winning horses were seen everywhere in his office, and indeed his office was decorated with a series of blue ribbons of prize-winning horses which he had bred and often exhibited himself.

One physician has summed up Si by saying "He was a lover of all mankind," which indeed he was. His one outstanding attribute was his unfailing kindness and sympathy for the underprivileged. He once remarked that he should have become a veterinarian, for horses were more appreciative than human beings. To this statement many of Dr. Bloomhardt's friends will take exception. They are sure that his underprivileged patients appreciated Si's kindness as much as did any horse, even a thoroughbred.

Topics of Current Medical Intrest

Arizona Poisoning Control Information Center

TOXICITY OF HOUSEHOLD INSECTICIDES

Because of numerous recent telephone inquiries for information on the toxicity of various insecticidal products and in view of the common use of insecticides during this season, the Arizona Poisoning Control Information Center conducted a survey to examine the household and garden insecticidal preparations which are available in Tucson. It was anticipated that such a survey would provide information useful to our poisoning control program. The stores which were canvassed consisted of four super markets, two nurseries, a large drug store, and a variety store. It is believed that the 80 household and garden insecticidal items found in these stores are representative of those found throughout the state of Arizona. Besides the usual household and/or garden sprays and aerosols, garden dusts, and garden baits encountered in the survey, there were an insecticidal floor wax, two insecticide-treated shelf and lining papers, a fumigant-type lindane preparation, and two "coating" preparations which contain insecticides. The 80 products examined comprised 34 active insecticidal chemicals, in addition to the solvents and inert ingredients. The 12 most frequently observed active ingredients and their frequency of occurrence in the survey are listed in Table I.

Table I. The Frequency of Occurrence of Twelve Active Chemicals in Eighty Insecticidal Preparations

Frequency of Occurrence	Chemical
37	Pyrethrins (including Allethrin)
23	DDT
22	Piperonyl butoxide, Piperonyl cyclonene
18	Dieldrin
17	Methoxychlor
15	Lindane
15	Malathion
9	Rotenone
8	Beta butoxy beta thiocyanodiethyl ether
8	Captan
8	n-Octyl sulfoxide of isosafrole
8	Chlordane

Most of the products examined contain a combination of insecticides in low effective concentrations and are ready for use as purchased. Several of the garden dusts are ready for use as purchased, but contain moderately high concentrations of insecticides. There are 20 garden sprays which require dilution with water before use; these contain high concentrations of insecticides. One of these concentrates contains as much as 72% chlordane.

In general the concentration of insecticides in the "ready-to-use" household and garden sprays is so low that ingestion of these products would give rise to poisoning by the petroleum distillate solvent rather than by the insecticides. Hence, in the event one of these preparations is ingested, treatment should be directed toward petroleum distillate poisoning. The insecticide-treated shelf and lining papers are unlikely to cause poisoning because of the physical nature of the preparations and because of the relatively

Table II. Toxicological Information on Eight Chemicals Employed in Concentrated Insecticidal Preparations 1, 2, 3, 4, 5

Insecticide	Toxicity* (Acute Oral)	Toxic Symptoms	Treatment
Chlordane	LD50** rat, 200-250 mg/kg (olive oil); LD50 rat, 250-750 mg/kg; Estimated human LD, 6-60 g; Skin contamination with 30 g; (25% solution) in organic solvent caused death.	Hyperexcitability, convulsions, tremors followed by depressions; death from respiratory arrest.	Phenobarbital sodium I.M. as prophylactic measure against convulsions; gastric lavage with water; catharsis with sodium sulfate; penthothal or pentobarbital I.V. to treat convulsions; oxygen or artificial respiration if needed; no specific antidote — symptomatic and supportive therapy with complete rest; avoid administration of fats, oils, and epinephrine; protect victim from external stimuli.
D.D.T. (Dichlorodiphenyltrichloroethane)	LD50 rat, 150-200 mg/kg (veg. oil): LD50 rat, 200-800 mg/kg; Estimated human LD, 500 mg/kg; in kerosene, 150 mg/kg.	Same as chlordane.	Same as chlordane.
Dieldrin	LD50 rat, 40-100 mg/kg; Estimated human LD, 65 mg/kg.	Same as chlordane.	Same as chlordane.
Dimite (Di (p-chlorophenyl) methyl carbinol)	LD50 rat, 500 mg/kg; Human LD, approximately same as for D.D.T.	Same as chlordane.	Same as chlordane.
Lindane	LD50 rat, 125 mg/kg; Estimated human LD, 7-15 g; convulsions with 45 mg in young adult reported.	Same as chlordane.	Same as chlordane.
Malathion	LD50 rat, 390-1500 mg/kg. (veg. oil); LD50 rat, 940-4700 mg/kg; Estimated human LD, 50-500 mg/kg; 4 g produced severe poisoning with recovery in 34-month-old boy.	Toxic symptoms primarily due to cholinesterase inhibition; headache; lacrimation; salivation; vomiting; dyspnea; diarrhea; marked tremors; pulmonary edema; convulsions.	Atropinize immediately, 1-4 mg atropine sulfate I.M. or I.V. for adult; maintain atropinization if cholinergic symptoms persist; frequent oropharyngeal suction as needed; oxygen and artificial respiration; gastric lavage with 5% sodium bicarbonate; wash contaminated skin with soap and water.
Nicotine	LD50 rat, 50-60 mg/kg; Estimated human LD, 60 mg; 4 mg produced grave symptoms.	G.I. irritation; tremors; convulsions; curare-like paralysis; death from respiratory failure.	Universal antidote, 6-8 tsp. in water; gastric lavage with 0.5% tannic acid or 1:5000 potassium permanganate; artificial respiration and oxygen; control convulsions with small doses of I.V. thiopental or pentobarbital; wash contaminated skin with soap and water.
Terpene Polychlorinates (66% chlorine); (Toxaphene); (Chlorinated terpenes)	LD50 rat, 40-69 mg/kg; Estimated human LD, 2-7 g.	Same as chlordane.	Same as chlordane.

*Although the LD50 is useful for comparing relative lethal potency, it does not provide reliable information on the minimum toxic dose. The latter dose, which is the amount that will produce minimal toxic symptoms, may be a small fraction of the LD50.

**LD50 (Lethal Dose 50): dose calculated to kill fifty per cent of a population.

low concentrations of the insecticide on the papers. One of the papers examined contains 15 mg of lindane per square foot of paper and the other contains 19 mg of lindane per square foot of paper. In order to exhibit symptoms of poisoning from these lining papers one would have to consume the lindane from the surface of several square feet of the material. However, in the case of the fumigant product, the "coating" preparations, the garden dusts, and the garden spray concentrates, which contain moderately high to very high concentrations of insecticides, ingestion could readily result in insecticide poisoning from these products. Concentrated preparations of insecticides in an oil or lipoid vehicle appear to be particularly hazardous because the lipoid vehicle enhances gastrointestinal absorption and, thus, the toxicity of the pesticides (see TOXICITY, Table II).

In view of the toxicological hazards of some garden insecticidal preparations, especially the concentrated garden sprays, gardeners and home owners should be urged to follow directions carefully and to observe the precautions of the manufacturers in the application of these materials. They should also be reminded of the possible danger of pulmonary and cutaneous absorption of insecticides. Parents of young children, particularly, should be cautioned to keep these products locked and out of reach of their little ones.

To aid physicians in the evaluation, diagnosis, and treatment of insecticide poisoning cases, the Arizona Poisoning Control Information Center has compiled toxicological information on eight chemicals employed in concentrated insecticidal formulae examined in the survey. The tabulated information is presented in Table II.

Statistics of 116 Poisoning Cases in Arizona During June, 1960

AGE:

71.6% involved under 5 year group	(83)
6.0% involved 6 to 15 year age group	(7)
12.9% involved 16 to 20 year age group	((15)
6.9% involved 31 to 45 year age group	(8)
2.6% involved over 45 year age group	(3)

NATURE OF INCIDENT:

86.2% accidental	(100)
13.8% intentional	(16)

TIME OF DAY:

31.0% occurred between 6 a.m. and noon	(36)
21.6% occurred between noon and 6 p.m.	(25)
16.4% occurred between 6 p.m. and midnight	(19)
2.6% occurred between midnight and 6 a.m.	(3)
28.4% were not reported	(33)

OUTCOME:

98.3% recovery	(114)
1.7% fatal (aspirin, furniture polish)	(2)

CAUSATIVE AGENTS:

	Number	Percent
Internal Medicines		
Aspirin	21	18.1
Other Analgestics	3	2.6
Barbiturates	8	6.9
Antihistamines	4	3.5
Laxatives	3	2.6
Cough Medicine	1	.9
Tranquilizers	2	1.7
Others	10	8.6
Subtotal	52	44.9
External Medicines		
Liniment	0	0.0
Antiseptics	3	2.6
Others	0	0.0
Subtotal	3	2.6
Household Preparations		
Soaps, Detergents, etc.	5	4.3
Disinfectants	2	1.7
Bleach	8	6.9
Lye, corrosives, drain cleaners	6	5.2
Furniture and floor polish	4	3.5
Subtotal	25	21.6
Petroleum Distillates		
Kerosene	6	5.2
Gasoline	4	3.5
Others	2	1.7
Subtotal	12	10.4
Cosmetics	1	0.9
Pesticides		
Insecticides	6	5.2
Rodenticides	0	0.0
Others	0	0.0
Subtotal	6	5.2
Paints, Varnishes, Solvents, etc.	4	3.5
Plants (Castor beans, Bird of Paradise)	2	1.7
Miscellaneous	5	4.3
Unspecified	6	5.2
TOTAL	116	100.0

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WHY A STATE DENTAL HEALTH PROGRAM

Arizona State Department of Health
Chester S. Wachowski, D.D.S., M.P.H.

It is estimated that the number of dentist-hours it would take to care for the accumulated dental needs in the United States reaches the staggering total of 768.5 million(1). To this is added 145.2 millions of dentist-hours which would be required to provide the services that are required to care for the incidence of dental disease occurring each year.

To meet these needs it is estimated that the dental profession can provide approximately 133.3 millions of dentist-hours. Actually, nationwide, the dental profession is hard-pressed to provide manhours about equal to the new need for services which develop as a result of the newly occurring dental diseases every year.

As a result of the topical fluoride demonstration conducted by the U.S.P.H.S. between May 1949 and May 1951, a sampling survey was made in ten Arizona counties visited by the unit (Table 1). The results stimulated the more progressive dentists of the Arizona State Dental Association into activity and their efforts achieved the appointment of a Director of Dental Public Health within the Arizona State Department of Health in October 1959. Until this date, Arizona had the somewhat dubious distinction of being the only state in the fifty states without a dental section in its department of health.

Since the organization of the first dental division of a state health department almost forty years ago, a long list of accomplishments in effective state dental programs could be cited.(2) A brief list of anticipated activities and needs for the Arizona State Department of Health will be reviewed.

SURVEYS

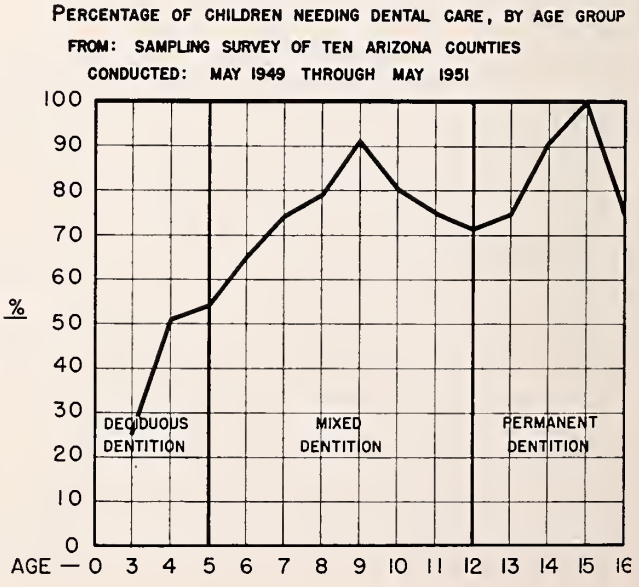
Obviously the first step in planning a state dental program is to determine the needs of the population. This can only be accomplished by conducting surveys of dental defects using such indices as are available. Intelligent program planning can hardly be carried on unless the nature and scope of a problem is accurately studied and analyzed. Interrelated surveys(3) must be conducted to determine resources available, both professional and non-professional, to meet the needs. Studies of dental-health knowledge, attitudes, and practices must be made along with a determination of the blocks present to the solutions of the problem of providing real health.

The needs and problems as non-dental people see them are usually and understandably at opposite ends of the pole. The dental profession knows that the only and most practical means of attaining better oral health is through prevention and education. The non-dental segments of the population can only think in terms of remedial care.

HEALTH EDUCATION

Health education is to be a principal and high priority activity of the State Dental Public Health program. It is important to create a desire for good oral health among a greater segment of the population and a willingness to seek and pay for more complete dental care. Again referring to Table 1, we see that only 22.3% of the children had previously been seen by a dentist. This is a sad commentary on the attitude of parents to the importance of early dental care when we see that 26.3% of the three year olds are in need of dental care. Referring to the graph Figure 1, we see that from the age of six and over more than 65% of the children are afflicted with dental problems.

Gallagan says, "What I have been trying to emphasize . . . is the fact that these children need a unique kind of help with their dental problems. All of these conditions are of such a nature that they need attention while the affected individual is still a child, while he is too young to make a decision or help himself achieve the health goals which he may have. If these conditions are allowed to go neglected until the



ARIZONA TOPICAL FLUORIDE DEMONSTRATION
MAY 1949 TO MAY 1951

SAMPLING SURVEY OF 10 COUNTIES VISITED BY UNIT

TOTAL INSPECTED	TREATMENT COMPLETED	% OF TOTAL	3 TREATMENTS	%	2 TREATMENTS	%	1 TREATMENT	%	TREATED BUT NOT INSPECTED
7131	6471	90.7	334	4.6	186	2.6	156	2.1	16

TOTAL INSPECTED	WHITE	% OF TOTAL	COLORED	% OF TOTAL	OTHERS	% OF TOTAL
7131	6798	95.3	187	2.6	146	2

TOTAL INSPECTED	TOTAL DENTAL CARE NEEDED	% NEEDING DENTAL CARE	NUMBER INSPECTED PREVIOUSLY SEEN BY A DENTIST	% PREVIOUSLY SEEN BY A DENTIST
7131	5312	74.4	1593	22.3

CHILDREN NEEDING DENTAL CARE BY RACE

		WHITE			COLORED			OTHERS			
TOTAL INSPECTED	TOTAL NEED CARE	%	INSPECTED	NEED CARE	%	INSPECTED	NEED CARE	%	INSPECTED	NEED CARE	%
7131	5312	74.4	6798	5032	74	187	145	77.5	146	135	92.4

DENTAL CARE NEEDED BY AGE GROUPS

AGE	TOTAL INSPECTED	TOTAL NEED CARE	% OF TOTAL
3	19	5	26.3%
4	43	22	51.1%
5	363	196	53.9%
6	1308	855	65.3%
7	1606	1194	74.3%
8	1527	1207	79. %
9	1095	900	92.1%
10	589	475	80.6%
11	314	240	76.4%
12	162	116	71.6%
13	71	53	74.6%
14	23	21	91.3%
15	15	15	100. %
16	4	3	75. %

FINDINGS ON INSPECTION

TOTAL INSPECTED	TOTAL WITH PERMANENT TEETH EXTRACTED	%	TOTAL IN NEED OF PERMANENT TEETH EXTRACTION	%	FILLINGS PRESENT	%	DECIDUOUS	%	PERMANENT	%	BOTH	%
7131	77	7.9	140	19.6	1865	26.1	1248	17.5	617	8.6	383	5.3

ehild ean aeeept his own responsibility, the damage is done.

"Children do need fillings, and poreelain jaekets and orthodontie applianees, but perhaps it is more realistie to say that what they really need is help from their elders. Many people who would ehoose to have good teeth are denied the right to make their own ehoiee beeause their teeth have been negleeted during the eritieal years of ehildhood and adolescence. What is needed is a generation of adults — parents, teachers, publie health workers — who will assume responsibility for seeing that the neeessary preventive, edueational and eorreetive dental serviees are available to them until they reaeh an age where they ean make their own deeisions about

the relative value of good dental health. If they are forced to wait that long without dental guidance, it may be too late!

"Parents are prime offenders, also too frequently, teachers do not have adequate information nor knowledge and lack the motivation to include dental health education in their classrooms. Dental health education in the curriculum of colleges and universities training teachers is seriously deficient."(4)

FLUORIDES

The problem of fluoride concentrations in the communal water supplies of the state is one that will require special attention.

A "Summary of the Chemical Analyses of Arizona Community Water Supplies" compiled in March 1960 by the Bureau of Sanitation and Sanitary Engineering and the Division of Laboratories of the Arizona State Department of Health points out some interesting facts. Our more than 1000 sources of community water supplies vary in fluoride concentrations from absolute 0 to 9., 10. and even 16. PPM.

In determining optimum fluoride concentrations to attain maximum benefits and little or no cosmetic defects, a few variables must be taken into consideration. Studies made by Galagan and Vermillion(5) and Galagan and Lamson (6) have pointed out that climate is an important factor in ascertaining the recommended optimum fluoride concentrations. As the mean maximum annual temperature increases the needed concentration of the fluoride ion in the water supply decreases.

Children vary in their activities and a youngster who is very active in the heat of the day will drink much more water and as a result ingest a greater relative amount of fluoride.

Dietary habits and cultural customs of certain population groups will result in a greater ingestion of fluoride ions. Studies made in New Mexico by Striffler(7) show that the Spanish American group who customarily boil their beans for hours concentrate the fluorides in foods to a much higher degree. Topical application of fluoride, though less effective than fluoridation of community water, is the preventive method of choice for children living in areas where fluoride concentrations in water are either too low to be beneficial or entirely absent. Evidence shows that where the applications have been carried on properly and over the recommended periods of time (at ages 3, 7, 10 and 13) there is a statistically significant decrease in the incidence of dental caries of approximately 40%. Granted this is a cumbersome and expensive procedure when carried out in the dental offices, but only a small percentage of children receive these treatments. There are no organized community programs to provide this service.

Daily administration of 5 mg fluoride tablets, a recommended procedure in some instances, has its drawbacks. Religious adherence to a prescribed dosage of medicine, tonics, vitamins or what have you cannot be depended upon as the members of the medical profession well know. Again we have here the ever-present threat of a parent who feels if a little bit is good, a lot is better, and will give a youngster twice as much as the recommended dosage in the hopes of eliminating dental caries entirely. It is a good thing that lethal doses are extremely high or they might even eliminate the child.

Much remains to be done in this field and with the co-operation of the Bureau of Environmental Sanitation and the Division of Laboratories of the Arizona State Department of Health, it is hoped to make some progress. It might be well to mention at this time that copies of the "Summary of Arizona Water Supplies" are available upon request from the Arizona State Department of Health.

These are just a few of the areas of program operations.

FUNDS AND PERSONNEL

We are all aware that funds appropriated for the Arizona State Department of Health are hardly adequate to carry on a satisfactory, overall program. All Divisions are short in personnel and budgetary allowances.

The Dental Public Health program is no exception, however, with the wholehearted assistance of the Arizona State Dental Association and the increasing awareness of the medical profession that dental care is a basic health need, it is felt reasonable progress will be made. We earnestly solicit the continued assistance of the medical profession in our efforts to resolve these problems. Through a system of appointing local dentists as consultants to the Dental Director, many of the problems of lack of personnel will be solved. These consultants will be asked to conduct surveys, work with local health departments, give talks to P.T.A. groups, civic organi-

zations and serve as a staff member of the Dental Public Health program.

To date over one hundred members of the State Dental Association have indicated a willingness to act as consultants, without remuneration, to the Arizona State Department of Health's Dental program.

It is a foregone conclusion that the knowledge gained from medical and dental research must be applied to be useful. There is now more basic knowledge about the prevention of dental diseases than is being applied through dental public health programs. It will be the duty of the Dental Public Health program and its director, with the assistance of his consultants, to stimulate the individual, the family and the community to make use of this knowledge to improve the oral health of the people of Arizona.

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BOARD OF MEDICAL EXAMINERS STATE OF ARIZONA

1021 Central Towers Building
Phoenix, Arizona

The Board of Medical Examiners of the State of Arizona at a regular meeting held Saturday, July 16, 1960, issued certificates to practice medicine and surgery in this State to the following doctors of medicine:

BECKMEYER, William Joseph (Pd), 926 E. McDowell Road, Phoenix, Arizona.

BEHLKE, Frank Marvin (S), 1603 N. Tucson Blvd., Tucson, Arizona.

BOIKO, George (S), 601 North 4th Avenue, San Manuel, Arizona.

BURR, Henry Leonard (S), 14103 E. Jefferson Ave., Detroit 15, Mich.

CLARY, Rudolph I. (GS), 216-18 South Front, Dowagiac, Michigan.

CLAYTON, Bruce Turner (GP), 2919 North 56th Street, Phoenix, Arizona.

CRANDALL, John Ivan (GP), San Manuel Hospital, San Manuel, Arizona.

CRAWFORD, Robert Fielding (Pd), 4950 East Thomas Road, Phoenix, Arizona.

CREPEA, Seymour Bernard (I-A), University Hospital, Madison, Wisconsin.

DARTY, Warren Gamaliel (GP), 512 — 9th Avenue, Palmetto, Florida.

DAVIS, Donald Andrew (GP), 2828 Westward Boulevard, Phoenix, Arizona.

DI CENSO, Remo (P), 1031 South Broadway, Los Angeles, Calif.

DORFMAN, Malcolm Francis (Or-S), 4660 E. Rockridge Road, Phoenix, Arizona.

DORSEY, George Charles (GP-PN), 720 Marq Bank Building, Minneapolis, Minn.

ENGLUND, Philip Martin (I), Ray Hospital, Ray, Arizona.

EPISCOPO, Frank Ronald (GP), Humboldt County Hospital, Eureka, Calif.

FLYNN, Stephen Eugene, Jr. (S), Maricopa County Hospital, Phoenix, Arizona.

FRAZIN, Lawrence Norman (Oph), 1130 East McDowell Road, Phoenix, Arizona.

GANEM, John Ferris (GM), Sunnyslope Clinic, Sunnyslope, Arizona.

GORDER, William Elnathan (GP), Box 1127, Aberdeen, South Dakota.

GRENFELL, Nicholas Pirie, Jr. (Path), Maricopa County General Hosp., Phoenix, Arizona.

GROSSMAN, Raymond (GP), Arizona State Hospital, Phoenix, Arizona.

HULEN, William Laverne (GP), 710 Professional Bldg., Phoenix, Arizona.

JOHNSON, Gordon Craig (R), M. D. Anderson Hospital, Houston, Texas.

JOHNSON, John James, Jr. (GP), 720 University Avenue, Las Vegas, New Mexico.

KESKEY, Theodore John (OALR), 205 West Coolidge St., Ironwood, Michigan.

KUYKENDALL, James Wayne (Ob-Gyn), Craycroft Medical Center, Tucson, Arizona.

LEE, Donald Edward (Ob-Gyn), 2955 North 22nd Avenue, Phoenix, Arizona.

McCREA, John Weed (GP), 6417 East Marlette St., Marlette, Michigan.

MEHNE, Edwin Karl (S), Sage Memorial Hospital, Ganado, Arizona.

MERMIS, William Leo (I-A), 1597 Mahoning Avenue, Youngstown, Ohio.

MINTURN, William Oliver (GS-TS), Veterans Administration, Phoenix, Arizona.

MORTIMER, Harold Montgomery (GP), 720 University Avenue, Las Vegas, New Mexico.

MOULDING, Thomas Staver, Jr. (I), Many Farms Clinic, Chinle, Arizona.

NASON, Zacharia Miles (GM & S), 771 Brotherhood Bldg., Kansas City, Kansas.

NAU, Carl August, Jr. (Anes), 2021 North Central Avenue, Phoenix, Arizona.

NICHOLSON, Hiram Adelbert (Ob-Gyn), 18941 Kingsville, Harper Woods, Michigan.

NOLEN, Percy (GP), West Blocton, Alabama.

PENT, David (Ob-Gyn), 2021 North Central Avenue, Phoenix, Arizona.

RABBAN, Wilson Joseph (Ob-Gyn), Kern County General Hospital, Bakersfield, Calif.

RADL, Robert Bernard (A), Santa Cruz County, Hospital, Santa Cruz, California.

REGER, Harry Leo, Jr. (GP), 6838 North 23rd Avenue, Phoenix, Arizona.

REUSS, Phyllis Sydney (GP), Maricopa County Health Dept., Phoenix, Arizona.

RUBINOW, Leo (P), Arizona State Hospital, Phoenix, Arizona.

SHAW, Larry Dale (GP), 694 East Southern Ave., Phoenix, Arizona.

SIEVERS, Maurice Lathan (I), 1550 E. Indian School Rd., Phoenix, Arizona.

SMIDT, James Allen (Pd), 322 West McDowell Road, Phoenix, Arizona.

STAVIG, Paul Hjertaas (Ob-Gyn), USAF Hospital, Homestead AFB, Florida.

STEELE, William Marker (Or-S), 24 North Hibbert Street, Mesa, Arizona.

STEVENSON, Walter Davis, Jr. (Opth), 1124 Broadway, Quincy, Illinois.

THEISEN, Richard Bruce (Ob-Gyn), 1150 North Country Club Drive, Mesa, Arizona.

TRAUMANN, Henry (GP), 3410 Monroe Street, Madison, Wisconsin.

VENROSE, Robert James (GP), 9939 Memory Park Avenue, Sepulveda, California.

VIARD, Walter Sloan, Jr. (GP), 450 West 23rd Street, Yuma, Arizona.

WHALEY, Joseph Sexter (GP), USAF Dispensary, Wurtsmith AFB, Oscoda, Michigan.

MEDICAL SUPPLEMENT, *HARPER'S* MAGAZINE

"The Crisis in American Medicine," a 48-page special supplement is appearing in the October issue of Harper's Magazine.

The issue carries articles by Edward T. Chase on "The Politics of Medicine"; Selig Greenberg on "The Decline of the Healing Art"; Joseph Fletcher, of the Episcopal Theological School, on "The Patient's Right to Die."

Also Dr. David Rutstein, of the Harvard Medical School on "Do You Really Want a Family Doctor?" Dr. Lindsay E. Beaton, President of the Arizona Medical Association, on "A Doctor Prescribes for His Profession"; John Russell on "The Hidden Bottleneck in Medical Research."

Also Dr. Martin Cherkasky and Maya Pines on "Tomorrow's Hospitals"; and Dr. Rene J. Dubos on "Beyond Traditional Medicine."

The Editors of Harpers, writing in the introduction to the supplement, believe that "the articles will offer a basis for informed debate on questions which the country will have to settle before long, because they affect the health, and perhaps the lives, of all of us."

NEW APPOINTMENT FOR CARRERAS

Dr. M. A. Carreras of Tucson has been appointed co-chairman of the health committee of the Arizona-Mexico West Coast Trade Commission by Gov. Paul Fannin. The other chairman of the health committee is Dr. Guillermo Sobranes of Hermosillo.

The commission is concerned with broad objectives covering most of the economic areas that involve exchanges between the two states.

PRIMARY SOURCES IN MEDICINE REISSUED

The pressure of keeping up with the mass of new materials has too often caused members of the profession to neglect older and basic sources. Recognizing this neglect, three classes of medical history have been reissued by Dover Publications.

A Source Book in Medical History, compiled by Logan Clendenning ($2.75) offers a panoramic view of the development of modern medicine through the contributions of men who made medical history. An anthology of the most significant medical writings of 4000 years, this volume covers every area of medicine from the theories of the early Egyptians to Roentgen's discovery of the x-ray. The 124 papers by 120 authors are documented with critical and biographical notes by the editor.

Twelve papers that revolutionized medical science have been brought together in C. N. B.

Camac's *Classics of Medicine and Surgery* ($2.25). These are the papers, by eminent physicians from Harvey to Holmes, that laid the foundations for modern medical theory and practice. Included in this collection are papers by Lister on "The Antiseptic Principle of the Practice of Surgery," Auenbrugger on "percussion of the Chest," Jenner on the small pox vaccine, Morton on "The Physiology of Ether" and others.

Third is William Beaumont's famous study on the mechanism of digestion, *Experiments and Observations on the Gastric Juice and the Physiology of Digestion* ($1.50). Beaumont's work with Alexis St. Martin remains a unique landmark in man's knowledge of his body processes.

In order to continue issuing quality editions of works in medicine at reasonable prices, Dover Publications would welcome suggestions on important, but often unavailable or out-of-print books for republication. The senders of the first 100 suggestions received by the publisher will receive, free of charge, their choice of any book on Dover's extensive list.

LABELING OF PRESCRIPTION DRUGS

Stronger regulations to insure that physicians receive adequate information about the drugs they prescribe and to insure the safety of new drugs were proposed by the Food and Drug Administration.

The new regulations would:

(1) Require sweeping changes in the labeling of prescription drugs. Virtually all prescription drug packages and printed matter distributed to physicians to promote sale of a drug would be required to bear complete information for professional use of the drug, including information about any hazards, side effects or necessary precautions.

FDA said that heretofore such fully detailed information has not been required in labeling when it was available in scientific literature, or, in certain cases, was available to the physician upon request. The only exception in the proposed regulations would apply to frequently used medicines that are commonly familiar to the doctor.

(2) Provide that when safety requires, a new drug would be kept off the market until the manufacturer's representations regarding the reliability of manufacturing methods, facilities and controls have been confirmed by a factory inspection by the Food and Drug Administration.

Such an inspection would verify that the firm can insure the identity, strength, quality and purity of each batch of the drug, FDA said. Occasional inspections have shown conditions in manufacturing plants which were contrary to representations made by the manufacturer in his request for safety clearance, according to FDA.

Other proposed labeling changes would require drugs for injection and for use in the eyes to bear a quantitative declaration of all inactive ingredients. Labels of all prescription drugs would be required to include an "identifying lot or control number from which it is possible to determine the complete manufacturing history of the drug." Exemptions are permitted where there is sufficient label space provided the information is given on other parts of the drug package. All labeling bearing information for use of a drug would be required to have the date of its issuance.

FEDERAL EMPLOYEES HEALTH BENEFITS

The total of employee payroll deductions and Government contributions for the Federal employees health benefits program, which went into effect in July, is estimated at $300,000,000 a year, the Civil Service Commission announced. Of this total, enrolled employees will pay about 62 percent, or $186,000,000, and employing agencies will pay the remainder, or $115,000,000.

The estimate is based on registration figures reported as of August 1 by the carriers of participating health benefits plans. These figures

	Enrollment	% Total Enrollment	% High Option	% Low Option
Government-wide Service Benefit Plan	943,377	54%	82%	18%
Government-wide Indemnity Benefits Plant	465,385	27%	82%	18%
Employee Organization Plans	229,079	13%	68%	32%
Comprehensive Medical Plans	100,987	6%	93%	7%
Total	1,738,828	100%	81%	19%

show a total employee enrollment of 1,738,828. They break down as follows:

According to preliminary figures, about 90 percent of all eligible employees are covered by the program. Eighty-one percent of the enrolled employees selected the high and more expensive options, although the low and less expensive options generally offer benefits comparable to, or better than, the benefits of most plans in which employees had been enrolled prior to the new program. The legislative history and the provisions of the Federal Employees Health Benefits Act of 1959 indicate that it was the intent of Congress to offer Federal employees an opportunity to obtain more extensive health benefits coverage than was previously generally available to them, the Commission said. The overwhelming selection of the high options shows that Federal workers agree with this intent and are more interested in broad coverage than in minimum protection at a lower cost.

In the area of broader application of the benefits, all participating plans permit an enrolled employee to retain full coverage for himself and his family after his retirement at the same cost as for the active employee. Full coverage of dependents may continue after the death of an enrolled employee or annuitant at the same cost as for active employees. Employees in a nonpay status may be covered for up to 365 days without premium cost to the employee or the Government during that time. No plan excludes an eligible employee from enrollment for reasons of pre-existing physical or mental conditions, age, or hazardous occupations.

Tabulations are currently being processed to relate the exercise of employee choice under this program to such items as salary, geographic area, family composition, and existing coverage under other plans. Analysis of the results of these tabulations is expected to provide further evaluation of the significance of the enrollment of Federal employees to the health insurance field generally, the Commission said.

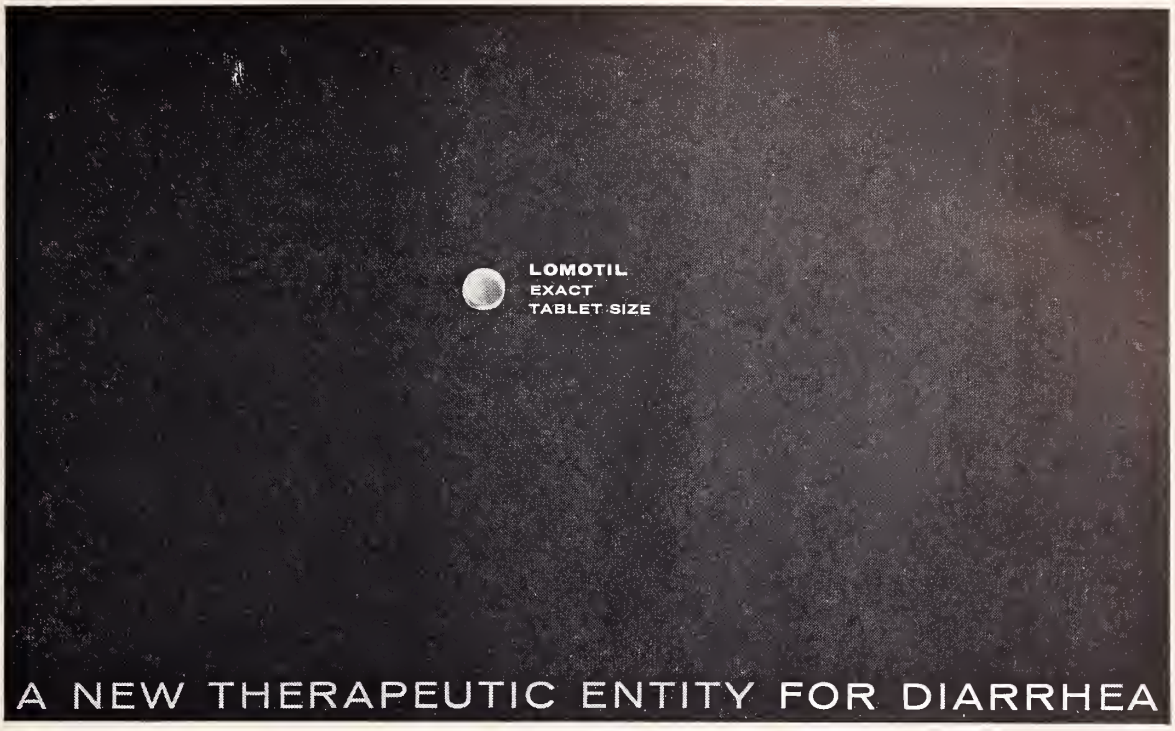
ENROLLMENT FIGURES RECEIVED FROM PARTICIPATING CARRIERS AS OF AUGUST 1, 196

EMPLOYEE ORGANIZATION PLANS

National Association of Letter Carriers	101,503
National Federation of Post Office Clerks	31,600
National Postal Clerks Union	17,350
American Federation of Government Employees	17,072
National Rural Carriers Association	16,372
Federal Postal Hospital Association	12,887
Special Agents Mutual Benefit Association (F.B.I.)	10,598
American Foreign Service Protective Association	5,136
National League of Postmasters of the United States	4,773
United National Association of Post Office Craftsmen	4,205
Group Health Insurance Board (Panama Canal)	3,091
National Association of Post Office and General Services Maintenance Employees	2,867
National Federation of Post Office Motor Vehicle Employees	1,825
TOTAL	229,079

COMPREHENSIVE MEDICAL PLANS

Kaiser Foundation Health Plan, Inc., San Francisco, Calif.	25,792
Kaiser Foundation Health Plan, Inc., Los Angeles, Calif.	17,160
Hawaii Medical Service Association, Honolulu, Hawaii	9,714
Group Health Association, Inc., Washington, D. C.	9,500
Washington Physicians Service, Seattle, Wash.	6,557
Kaiser Foundation Health Plan, Inc., Honolulu, Hawaii	6,193
Health Insurance Plan of Greater New York	5,500
Group Health Insurance, Inc., New York, N. Y.	4,535
National Hospital Association, Portland, Ore.	3,421
California Counties Medical Societies' Foundation for Medical Care, Stockton, Calif.	2,987
Kaiser Foundation Health Plan of Oregon, Portland, Ore.	2,803
Physicians and Surgeons Association, San Francisco, Calif.	2,404
Group Health Cooperative of Puget Sound, Seattle, Wash.	2,390
Ross-Loos Medical Group, Los Angeles, Calif.	654
Seattle Letter Carriers Medical Service, Inc., Seattle, Wash.	648
Western Clinic, Tacoma, Wash.	187
Group Health Plan, Inc., St. Paul, Minn.	184
Pacific Health Plan, Los Angeles, Calif.	146
North Idaho District Medical Service Bureau, Inc., Lewiston, Idaho	120
The Bridge Clinic, Seattle, Washington	66
Ray E. Harris, M.D., and Staff, San Francisco, Calif.	35
TOTAL	100,987



LOMOTIL®

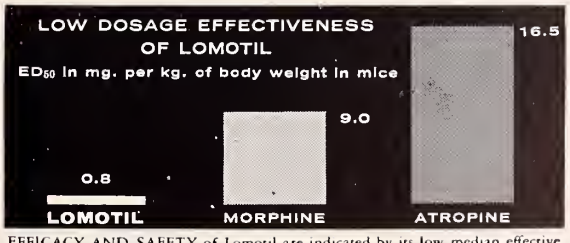
SELECTIVELY LOWERS PROPULSIVE MOTILITY

LOMOTIL represents a major advance over the opium derivatives in controlling the propulsive hypermotility occurring in diarrhea.

Precise quantitative pharmacologic studies demonstrate that Lomotil controls intestinal propulsion in approximately $\frac{1}{11}$ the dosage of morphine and $\frac{1}{20}$ the dosage of atropine and that therapeutic doses of Lomotil produce few or none of the diffuse untoward effects of these agents.

Clinical experience in 1,314 patients amply supports these findings. Even in such a severe test of antidiarrheal effectiveness as the colonic hyperactivity in patients with colectomy, Lomotil is effective in significantly slowing the fecal stream.

Whenever a paregoric-like action is indicated, Lomotil now offers positive antidiarrheal control . . . with safety and greater convenience. In addition, as a nonrefillable prescription product, Lomotil offers the physician full control of his patients' medication.



EFFICACY AND SAFETY of Lomotil are indicated by its low median effective dose. As measured by inhibition of charcoal propulsion in mice, Lomotil was effective in about $\frac{1}{11}$ the dosage of morphine hydrochloride and in about $\frac{1}{20}$ the dosage of atropine sulfate.

PRECAUTION: While it is necessary to classify Lomotil as a narcotic, no instance of addiction has been encountered in patients taking therapeutic doses. The abuse liability of Lomotil is comparable with that of codeine. Patients have taken therapeutic doses of Lomotil daily for as long as 300 days without showing withdrawal symptoms, even when challenged with nalorphine.

Recommended dosages should not be exceeded.

DOSAGE: The recommended initial dosage for adults is two tablets (5 mg.) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. ($\frac{1}{2400}$ gr.) of atropine sulfate to discourage deliberate overdosage.

Subject to Federal Narcotic Law.

Descriptive literature and directions for use available in Physicians' New Product Brochure No. 81 from

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Reprints

Chemotherapy Of Extrapulmonary Tuberculosis In Adults*

The treatment of extrapulmonary tuberculosis follows the general principles of chemotherapy used in the management of pulmonary tuberculosis. A suggested outline for chemotherapy is given. Prolonged treatment and a delay in instituting surgical measures are recommended.

The management of pulmonary tuberculosis varies considerably to meet problems of individual cases, but the following general principles of chemotherapy, which are widely followed, are also believed to apply to many forms of extrapulmonary tuberculosis:

1. Antibacterial chemotherapy is recommended for all patients with active tuberculous infection.

2. Chemotherapy should be intensive and uninterrupted. Most physicians, but not all advise combined chemotherapy, using isoniazid with either PAS or streptomycin. When it is well tolerated, PAS is usually employed because it is easily administered. Some physicians prefer to use three drugs — isoniazid, PAS, and streptomycin — for more severe manifestations of tuberculosis. The usual dosage of isoniazid is 100 mg. three times daily (3-5 mg. per kilo body weight), but there is growing indication that larger doses are sometimes more beneficial. Larger doses require the administration of pyridoxine to minimize the risk of neurologic complications (peripheral neuritis), PAS is given in maximal tolerated doses, ordinarily 4 gm. three times daily (150-200 mg. per kilo body weight). Daily administration of streptomycin — 1.0 gm. (15-20 mg. per kilo body weight) — is ordinarily reserved for severe manifestations of tuberculosis, and injections every second or third day appear adequate for many cases.

3. Chemotherapy is continued for a prolonged period — usually two years and at least one year — after the tuberculosis has become inactive, as determined by X-ray, bacteriologic, and clinical diagnostic methods.

4. Surgical treatment for pulmonary tuberculosis, particularly pulmonary resection, is ordinarily delayed for at least several months. This long preliminary course of medical treatment sometimes obviates the need for surgery, usually diminishes the risk of tuberculosis complications of surgery, and sometimes permits more conservative operations than would have been necessary earlier in the course of the illness. At other times lesions that appear to be inoperable improve substantially as a result of medical treatment and become operable. In some forms of extrapulmonary tuberculosis, it is probable that surgery, particularly the radical procedures,

*A Statement of the Committee on Therapy, American Trudeau Society, The American Review of Respiratory Diseases, March, 1960.

should be similarly delayed for several months after medical treatment is begun.

Skeletal Tuberculosis

When affected by tuberculosis, a weight-bearing joint is more likely to require surgical fixation than a non-weight-bearing joint. Peripheral joints heal more rapidly and completely than proximal joints. Joints of the spine are more difficult to treat than joints of the extremities.

Tuberculosis which involves only the synovial membrane is often completely reversible, and a functional cure is usually possible with chemotherapy. Early diagnosis of such a condition may require biopsy.

The fusion of tuberculosis joints is best delayed until medical treatment has diminished soft tissue reaction, closed any drainage sinuses present, and stabilized the pathologic process, and may be avoided altogether in many instances.

Tuberculous abscesses should be evacuated when possible to facilitate healing.

Tuberculous Lymphadenitis

Tuberculous lymph nodes often resolve rather slowly under treatment with specific drugs, but eventual healing is usually possible without surgery. Abscesses associated with tuberculous lymph nodes should be evacuated (aspirated) and occasionally resected. Acid-fast bacilli that are not typical *M. tuberculosis* are occasionally found to cause lymphadenitis. These organisms are usually not responsive to antituberculosis drugs.

Genitourinary Trace Tuberculosis

Tuberculous cystitis responds promptly when the infection is recent and superficial. Despite early clearing of symptoms of cystitis, prolonged treatment is essential for permanent results.

Renal tuberculosis demands prolonged medical treatment in all cases — for even longer periods than in the case of pulmonary diseases — and results are frequently satisfactory, even without resection of seriously damaged kidneys. Opinion among surgeons is divided as to what constitutes an indication for nephrectomy.

Tuberculous epididymitis, seminal vesiculitis, and prostatitis respond slowly but definitely to adequate and prolonged chemotherapy.

Tuberculosis of the female genital tract frequently requires surgery in addition to chemotherapy, especially removal of the abscesses associated with tuberculous salpingitis. Tuberculosis of the endometrium is usually secondary to tuberculosis elsewhere in the genital tract but appears to respond to medical treatment.

Miliary Tuberculosis And Tuberculous Meningitis

These forms of tuberculosis may frequently be treated successfully, especially when early, intensive, and prolonged therapy is administered. Isoniazid is considered the most important drug. Streptomycin is usually employed daily for a few weeks or months. There is growing evidence that the adrenal corticosteroid hormones are beneficial. Intrathecal therapy is rarely used in the treatment of tuberculous meningitis.

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FIFTH ANNUAL MEETING

Guadalajara, Jal., Mexico, November 8-9-10; followed by Mazatlan, Sin., Mexico, November 11-12. For information write: M. A. Carreras, M.D., 130 South Scott, Tucson, Arizona.

THE EIGHTH ANNUAL SCIENTIFIC SESSION OF THE ARIZONA CHAPTER AMERICAN ACADEMY OF GENERAL PRACTICE

OCTOBER 13, 14, 15, 1960
Hotel Valley Ho, Scottsdale, Arizona
All Physicians Cordially Invited

PROGRAM
THURSDAY, OCTOBER 13
1:30 - 5:00 P.M.

"The Role of Professional Management"
Speaker, Mr. Edward W. Rice, Doctors' Business Bureau, Boise, Idaho.
"The Doctor's Accountant"
Speaker, Mr. Gary Wade, Doctors' Business Bureau, Tucson, Arizona.
"Paying for Medical Care"
Speaker, Mr. George Richardson, Medical-Dental-Finance Bureau, Phoenix, Arizona.

FRIDAY, OCTOBER 14
9 - 12:00 A.M.

Urology Clinic

"The Use and Abuse of Catheters"
"Urologic Conditions that Simulate General Surgical Conditions in the Abdomen"
Speaker, David K. Worgan, M.D., Seattle, Washington.
Discussant: Paul L. Singer, M.D., Phoenix.

FRIDAY, OCTOBER 14
2-5:00 P.M.

Psychosomatic Clinic

"Psychosomatic Medicine In General Practice"
Speaker, Edward J. Kollar, M.D., The Neuropsychiatric Institute, UCLA.
Discussant: William B. McGrath, M.D., Phoenix.

SATURDAY, OCTOBER 15
9 - 12:00 A.M.

Burn Clinic

"Burn Management"
Speaker, Edward N. Vogel, Jr., M.D., Col. MC Brooke Army Hospital.
Discussant: Claire W. Johnson, M.D., Phoenix.

REGISTRATION

These meetings open to all doctors.
Make reservations directly with Hotel.

ANNUAL MEETING:

Luncheon, 12:15, October 14.

ENTERTAINMENT:

Ladies Luncheon, Friday, October 14, 1 p.m.
Cocktail Party Friday, October 14, 6:30 p.m.
Buffet Dinner, 7:30.

ARIZONA HEART ASSOCIATION

Letter of Invitation

Dear Doctor:

Again this year we take pride in announcing our Fourth Annual Cardiac Conference to be held in Phoenix, Arizona on January 29 and 30 at the Arizona Biltmore Hotel.

If you were with us last January you will recall that this hotel has excellent facilities for our conference.

The distinguished speakers for the next symposium include the following:

Paul Dudley White, M.D., Clinical Professor of Medicine, Harvard Medical School, Boston, Mass.

Robert E. Gross, M.D., Lab. Professor of Children's Surgery, Harvard Medical School, Boston, Mass.

W. Proctor Harvey, M.D., Associate Professor of Medicine, Department of Internal Medicine, University of Kansas; presently Director of the Institute for Cardiopulmonary Diseases at Scripps Clinic and Research Foundation, LaJolla, California.

We are most sincere in our desire that you will give serious consideration to the combination of a vacation in this valley and an attendance at this unusually fine scientific program.

A golf course and riding stables are on the hotel grounds. Plan your winter vacation now and be with us in January.

Sincerely yours,

Leslie B. Smith, M.D.
Chairman
1961 Sypmosium Planning Committee

revised 8-4-60

Tentative Program

9TH ANNUAL CANCER SEMINAR

of the Arizona Division
American Cancer Society
"Changing Concepts in Tumor Formation and Therapy"
January 12, 13 & 14, 1961
Tidelands Motor Inn — Tucson

Thursday, January 12

9:00 A.M. Greetings—Dr. Lindsay E. Beaton
President, The Arizona Medical Association

9:15 A.M. *Some Metabolic Approaches to Cancer Chemotherapy — Part I*
Arnold D. Welch, Ph.D.,M.D.

9:45 A.M. *Theoretical Aspects of Immunology*
Chester M. Southam, M.D.

10:30 A.M. Break

10:45 A.M. *The Polyoma Story*
Arthur W. Ham, M.B.

11:15 A.M. *Diagnostic and Therapeutic Studies on Cancer of the Adrenal*
Roy Hertz, M.D.

12:00 Noon Luncheon and Round Table

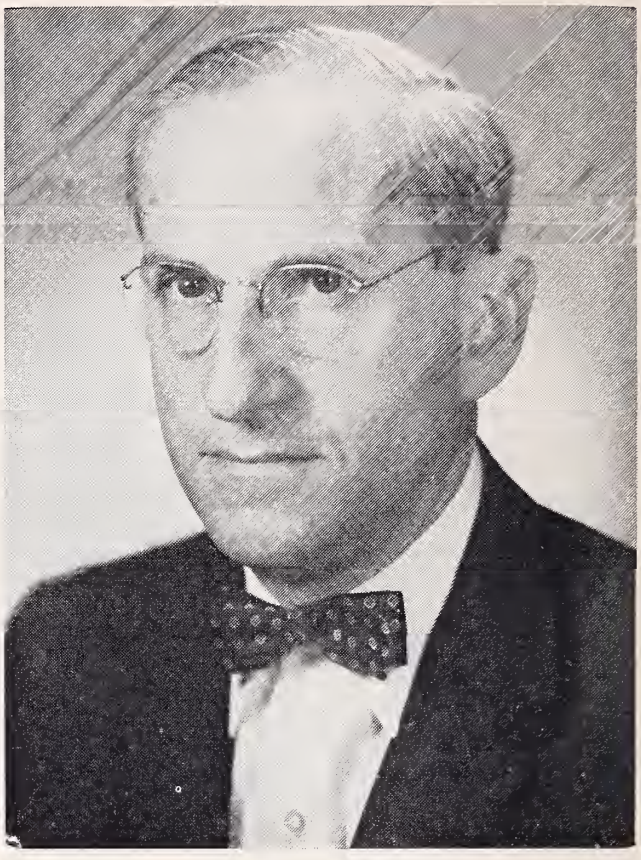
2:00 P.M. *The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors*
Jeanne C. Bateman, M.D.



Charles Heidelberger, Ph.D.



Henry S. Kaplan, M.D.



Roy Hertz, M.D.

2:30 P.M. *Laboratory Studies in Cancer Chemotherapy with Fluorinated Pyrimidines*
Charles Heidelberger, Ph.D.
3:00 P.M. Break
3:15 P.M. *Bone Pathology*
C. Howard Hatcher, M.D.
3:45 P.M. Question and Answer Session

Friday, January 13
9:15 A.M. *Assessment of Environmental Agents in the Pathogenesis of Lung Cancer*...Paul Kotin, M.D.
9:45 A.M. *Indirect Mechanisms in Carcinogenesis* ..Henry S. Kaplan, M.D.
10:15 A.M. Break
10:30 A.M. *Some Metabolic Approaches to Cancer Chemotherapy — Part II*
Arnold D. Welch, Ph.D.,M.D.
11:15 A.M. *Chemotherapy of Choriocarcinoma and Related Trophoblastic Tumors*.....Roy Hertz, M.D.
12:00 Noon Luncheon
1:30 P.M. *Treatment of Bone Tumors*
C. Howard Hatcher, M.D.
2:00 P.M. *The Treatment of Advanced Tumors*.Jeanne C. Bateman, M.D.
2:30 P.M. Break
2:45-4:00 P.M. Panel: *Care of the Patient with Advanced Malignance*
Jeanne C. Bateman, M.D. Roy Hertz, M.D.
Charles Heidelberger, Ph.D., Henry S. Kaplan, M.D., plus clergy and two clinicians

Saturday, January 14
9:15 A.M. *Clinical Pharmacology Studies with Fluorinated Pyrimidines*
Charles Heidelberger, Ph.D.
9:45 A.M. *Immunology As It Relates to Cancer: Clinical Applications — Past Attempts and Future Possibilities*
Chester M. Southam, M.D.
10:15 A.M. Break
10:30 A.M. *Host Factors in Relation to the Action of Environmental Carcinogenic Agents*.Paul Kotin, M.D.
11:00 A.M. *Chemical Modification of Radiosensitivity*.Henry S. Kaplan, M.D.
11:30 A.M. *Possible Tumor Viruses in Man*
Arthur W. Ham, M.B.

POSTGRADUATE COURSES ON DISEASES OF THE CHEST

Two postgraduate courses on diseases of the chest have been announced by Dr. J. Winthrop Peabody, Sr., Washington, D.C., Chairman of the Council on Postgraduate Medical Education of the American College of Chest Physicians.

The first of these, the 15th annual course, CLINICAL CARDIOPULMONARY PHYSIOLOGY, has been arranged under the co-chairmanship of Dr. Albert H. Andrews, Associate Clinical Professor of Bronchoesophagology, University of Illinois College of Medicine, and Dr. Edwin R. Levine, Assistant Professor of Clinical Medicine, Chicago Medical School. This course will be held at the Sheraton Towers Hotel, Chicago, October 24-28, 1960.

The second, the 12th annual course, RECENT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE HEART AND LUNGS, was arranged under the co-chairmanship of Dr. Edgar Mayer, Clinical Professor of Medicine, New York University Postgraduate Medical Center; Dr. Alfred S. Dooneief, Lecturer in Medicine, Columbia University College of Physicians and Surgeons; and Dr. Emil A. Naclerio, Chief, Thoracic Surgical Services, Harlem and Columbus Hospitals, New York City. This course will take place at the Park Sheraton Hotel, New York City, November 14-18, 1960.

Tuition for each five-day course will be $100 including round table luncheon discussions.

Additional information may be obtained by writing to: Executive Director, American College of Chest Physicians, 112 East Chestnut St., Chicago 11, Ill.

POSTGRADUATE ASSEMBLY

San Diego, California

The 14th Annual Postgraduate Assembly, sponsored by the San Diego County General Hospital will be held on Wednesday, November 2, and Thursday, November 3, 1960, at the County Hospital. Guest speakers will be:

Chest Section: J. Maxwell Chamberlain, M.D.
Medicine: E. Gray Diamond, M.D.
Obstetrics-Gynecology: John C. Ullery, M.D.
Orthopedics: Andrew Bassett, M.D.
Pediatrics: Robert Ward, M.D.
Surgery: Harris B. Shumacker, Jr., M.D.
Urology: Eugene R. Poutasse, M.D.

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Charles Heidelberger, Ph.D.
American Cancer Society
Professor of Oncology
McArdle Memorial Laboratory for Cancer Research
The University of Wisconsin Medical School
Roy Hertz, Ph.D., M.D., M.P.H.
Chief, Endocrinology Branch
National Cancer Institute
Public Health Service
Department of Health, Education and Welfare
Henry S. Kaplan, M.D.
Executive, Department of Radiology
Stanford University School of Medicine
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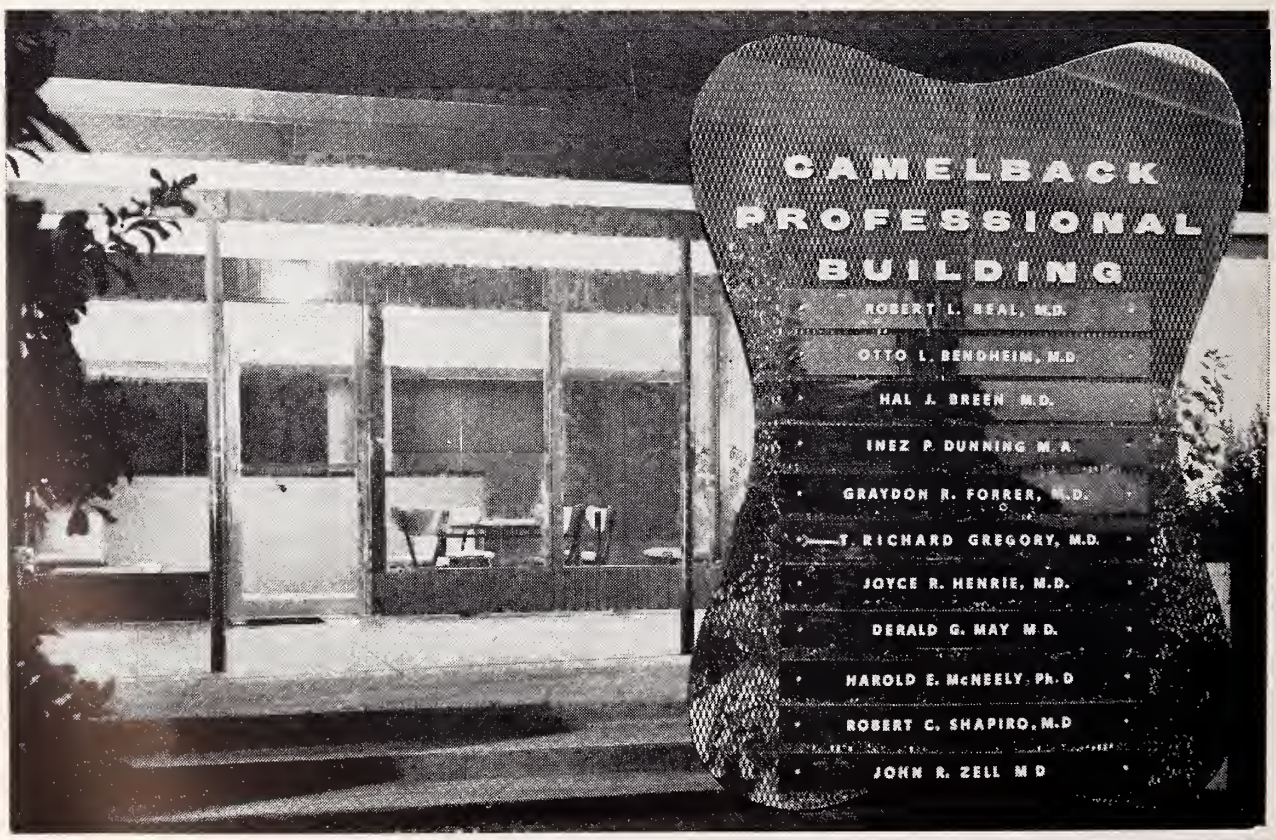
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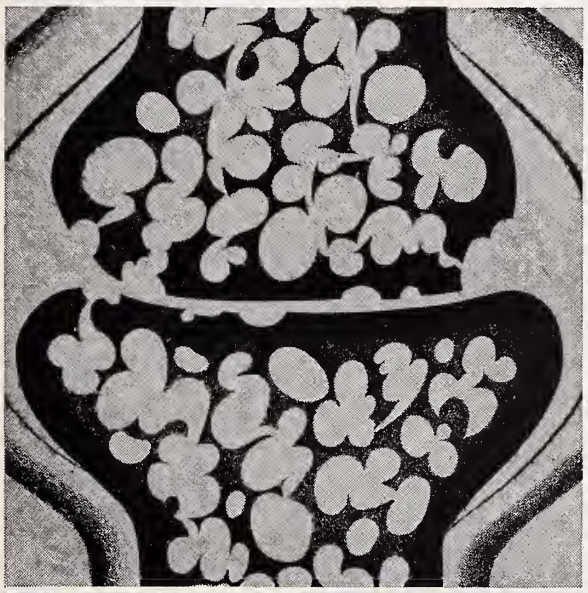
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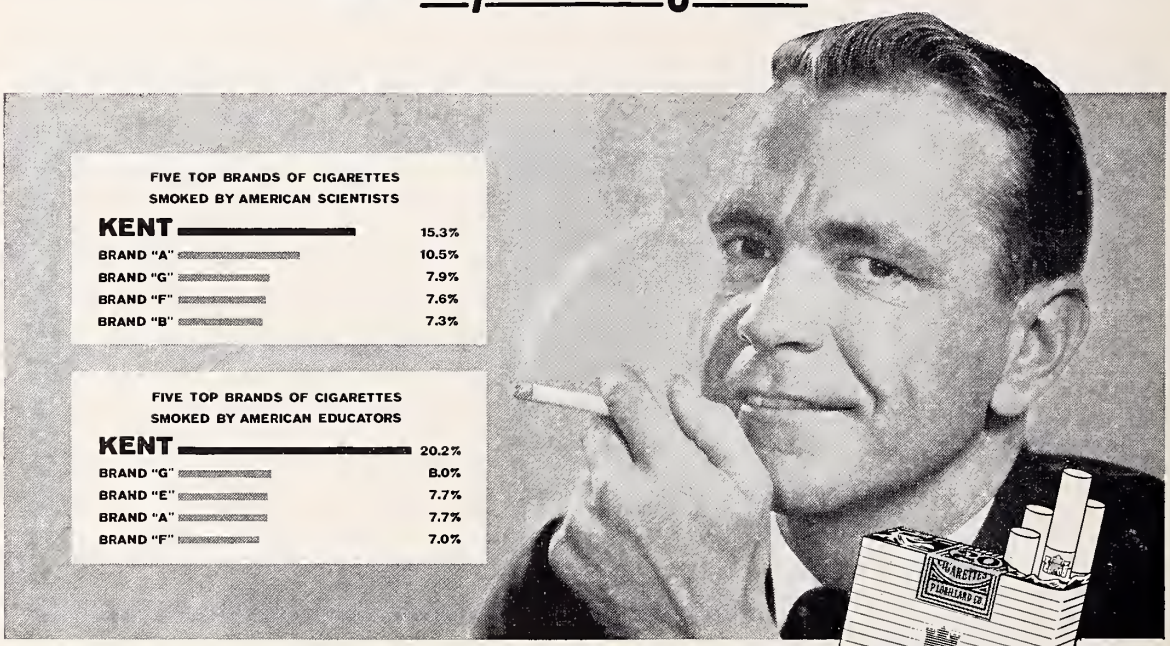
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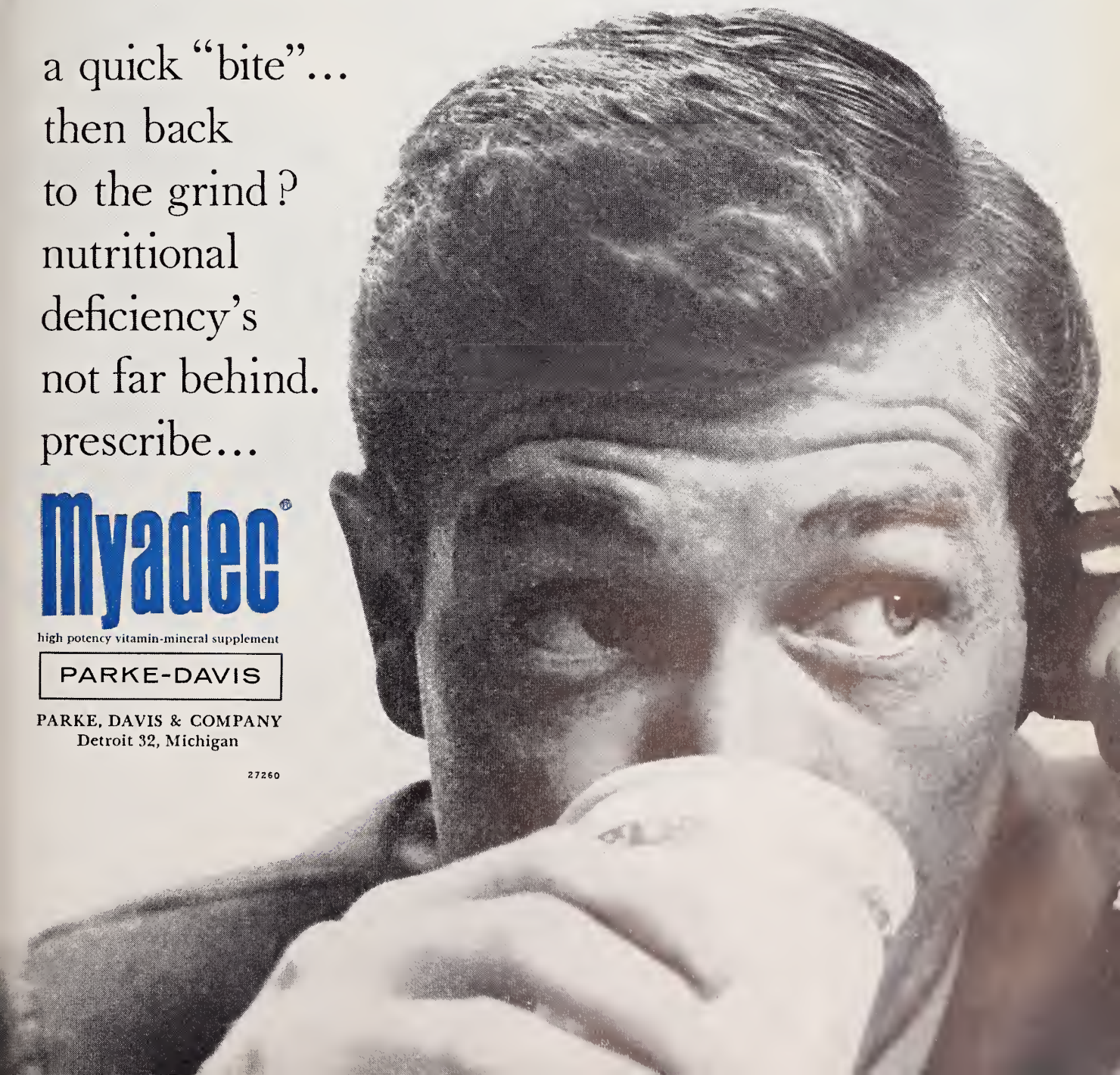
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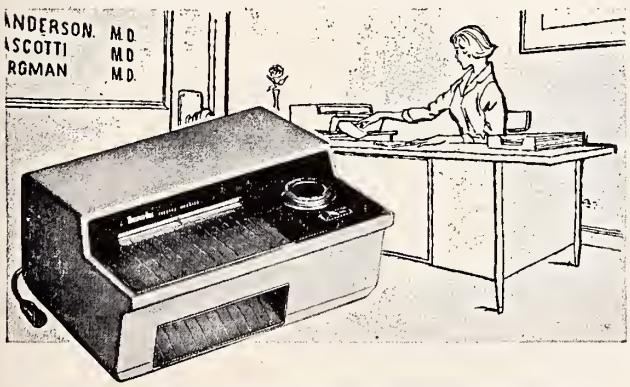


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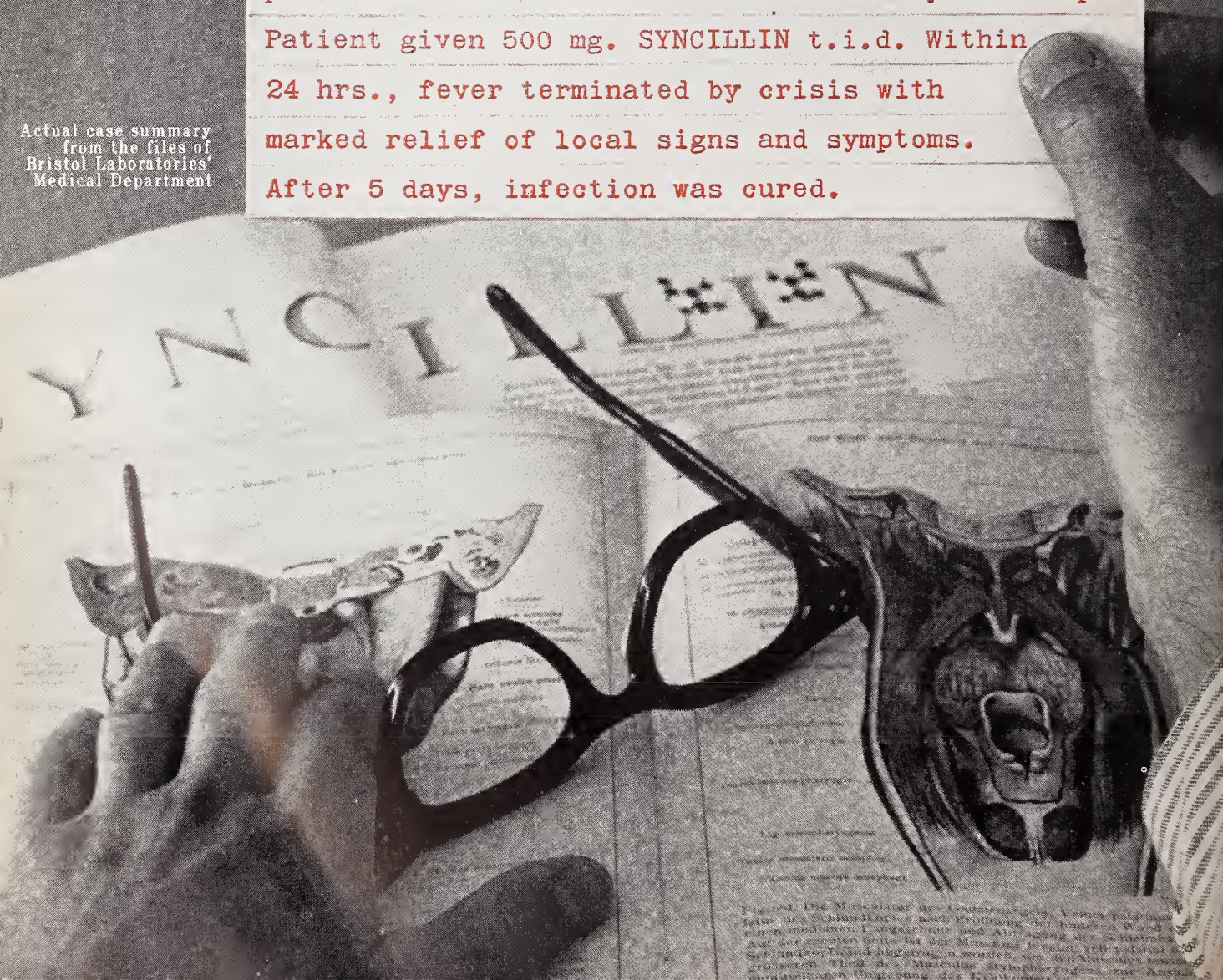
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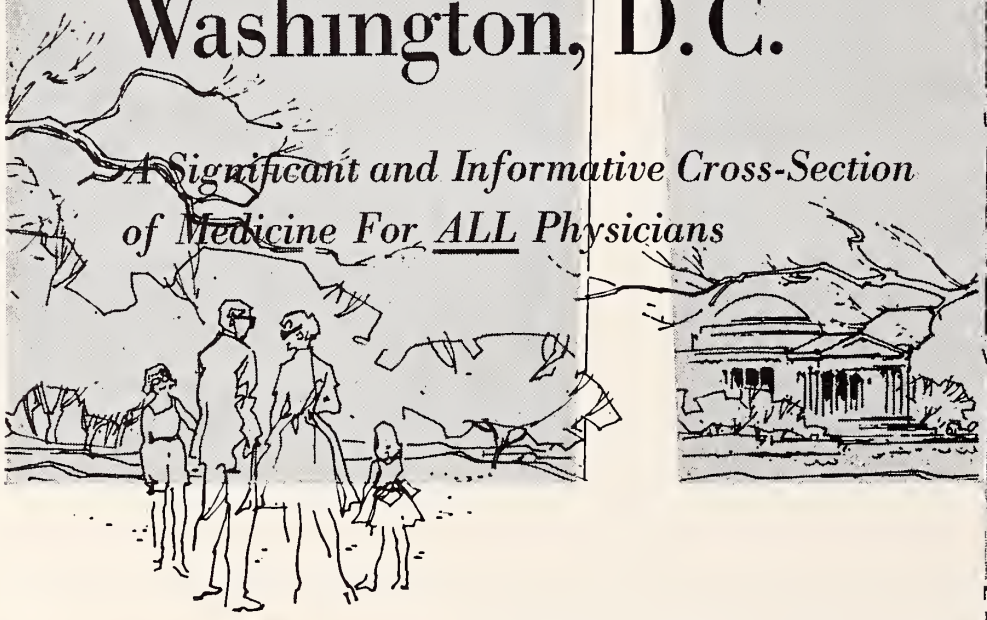
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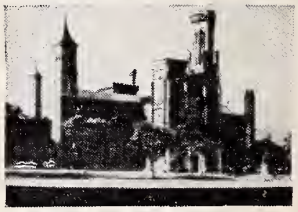



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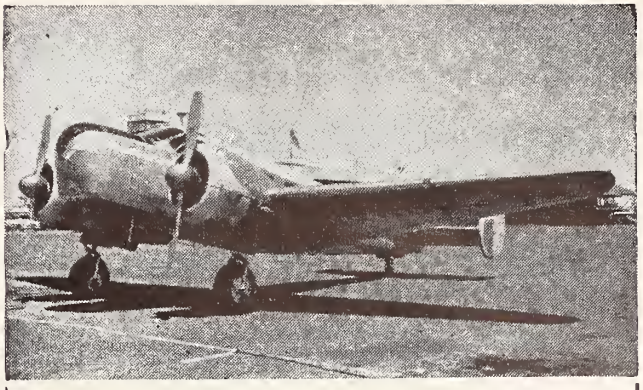
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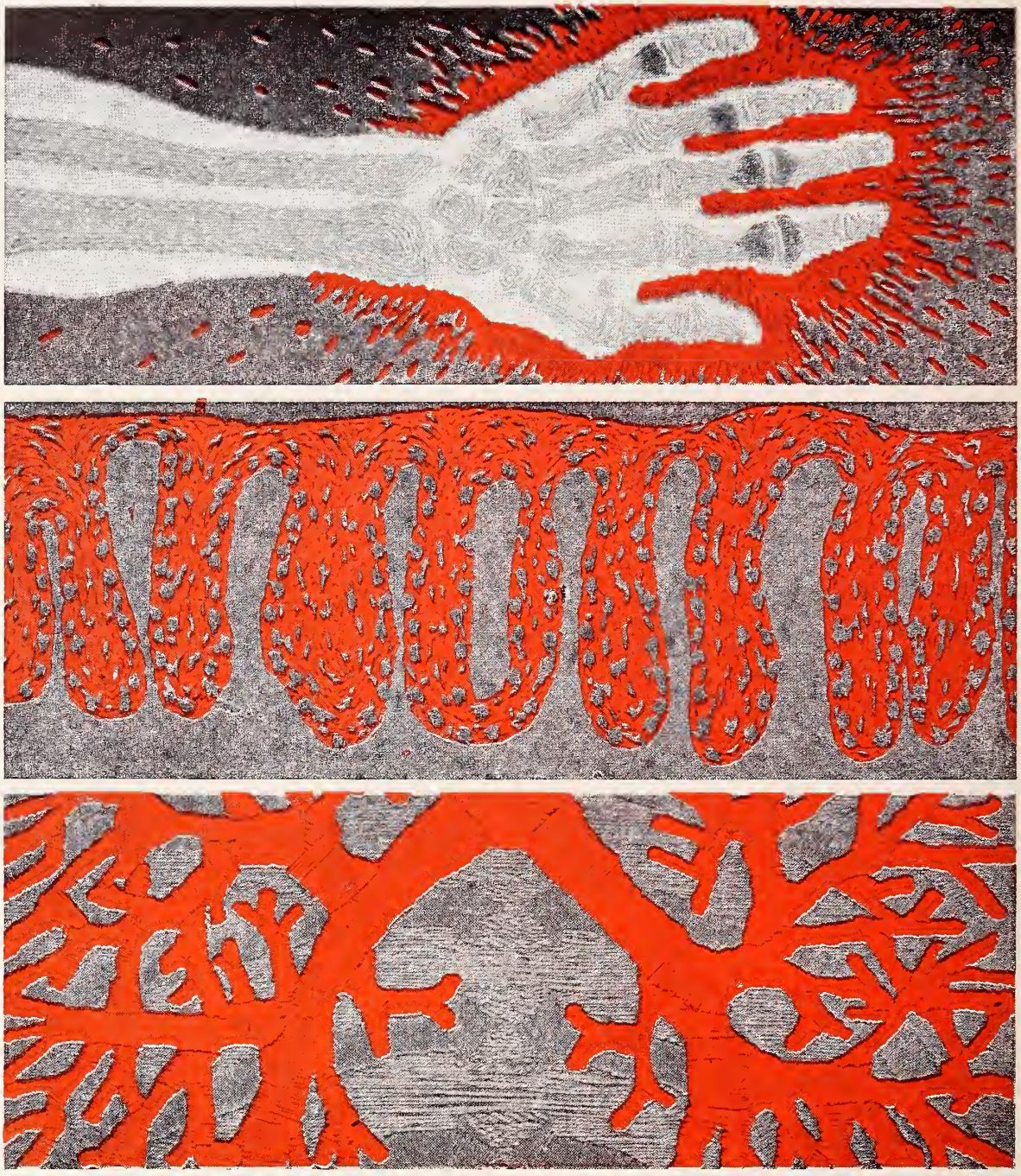
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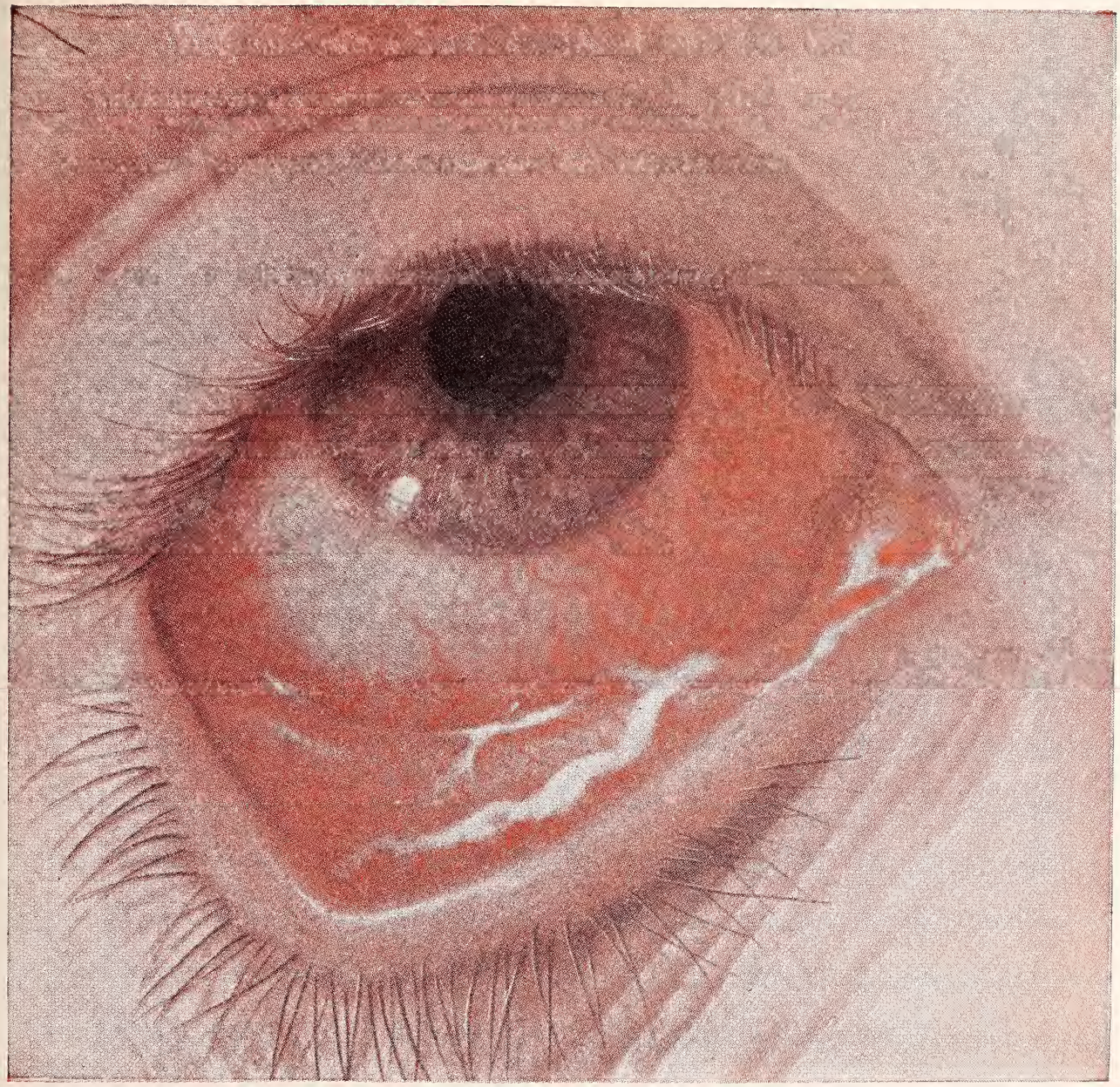
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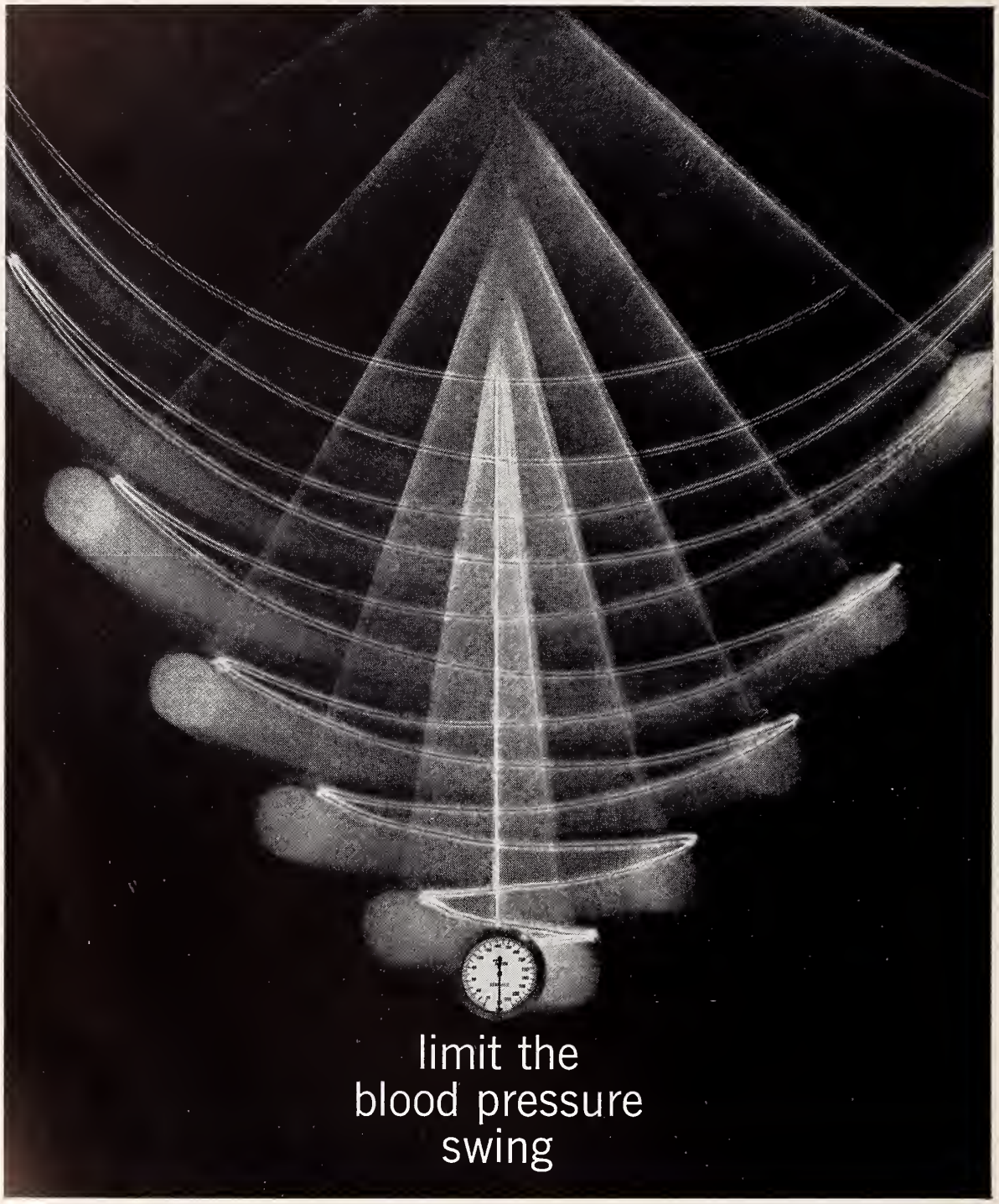
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1. Lippmann, O.: Arch. Ophth. 57:339, March 1957.
2. Gordon, D.M.: Am. J. Ophth. 46:740, November 1958.

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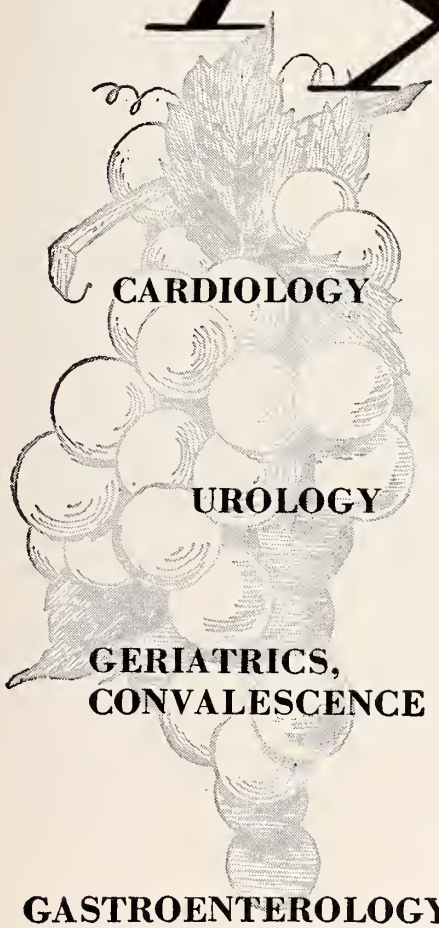
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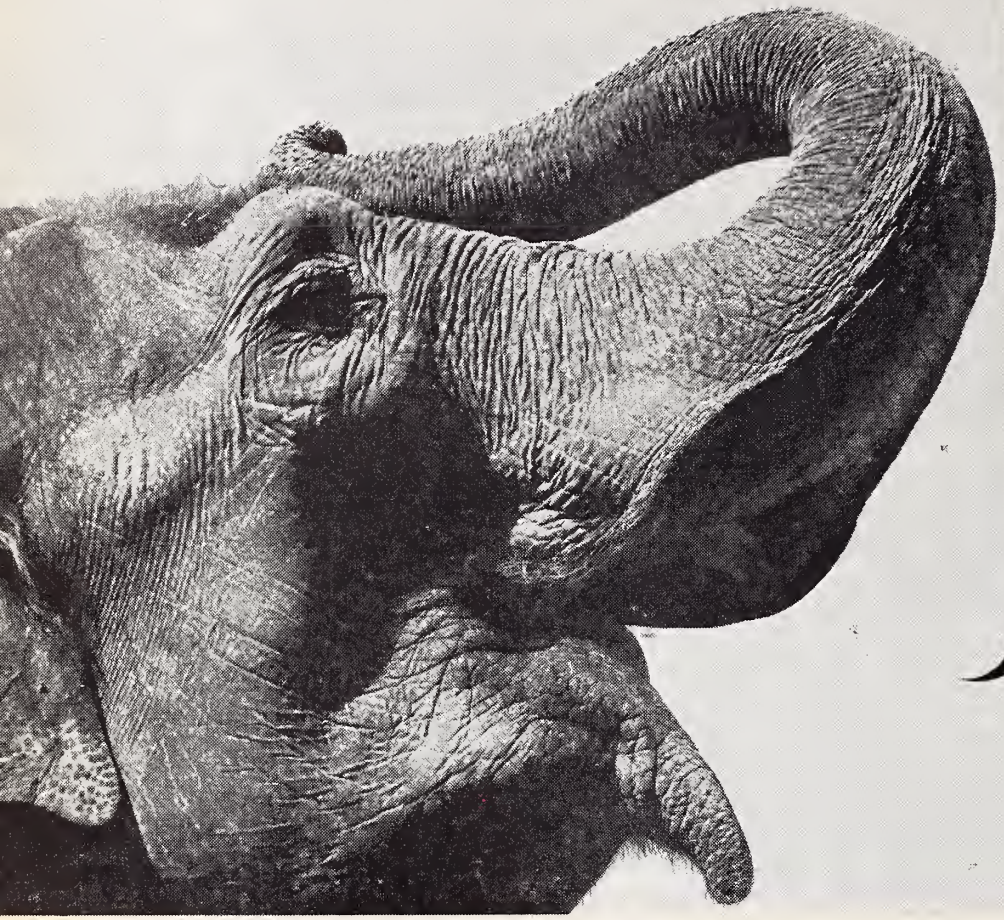
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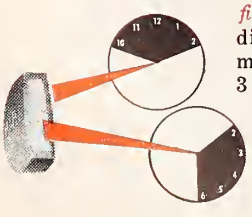
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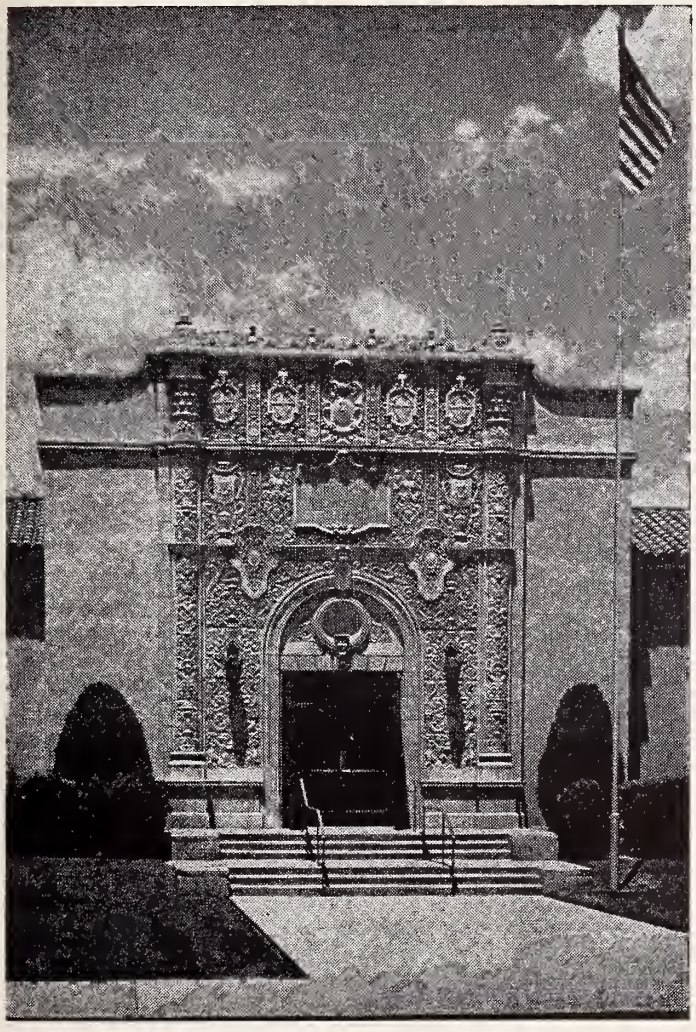
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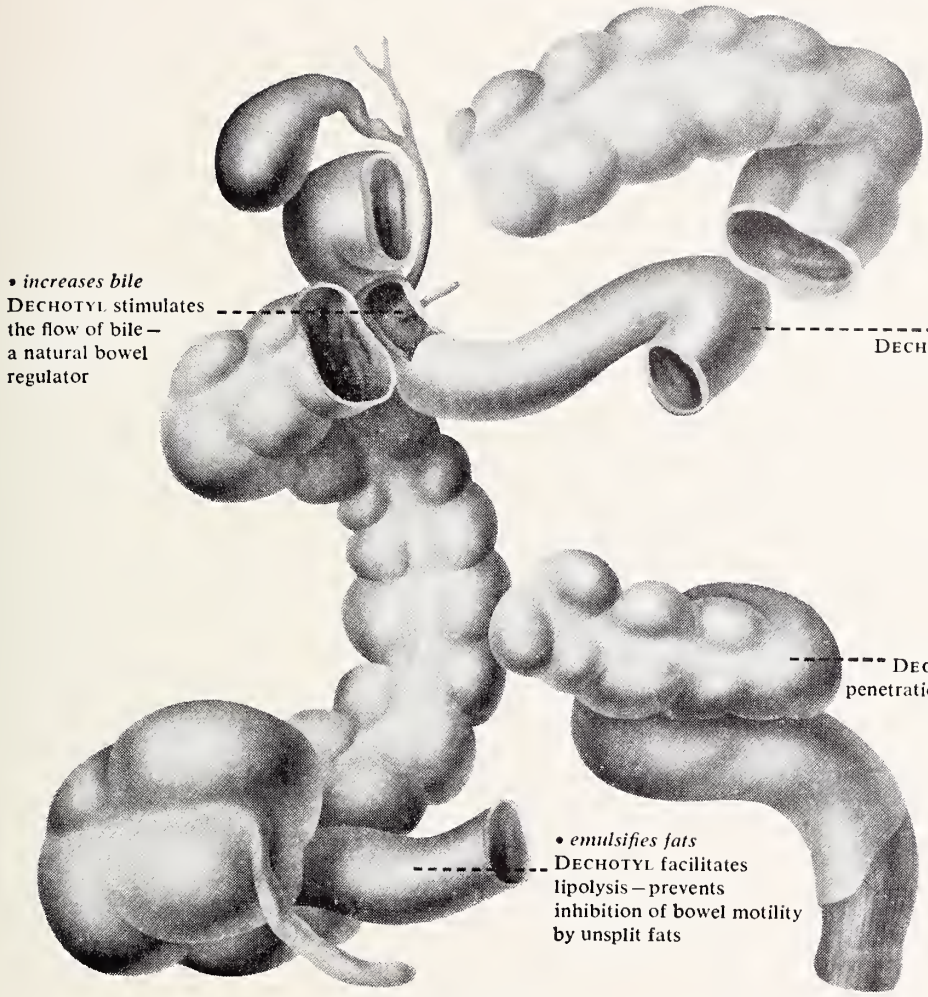
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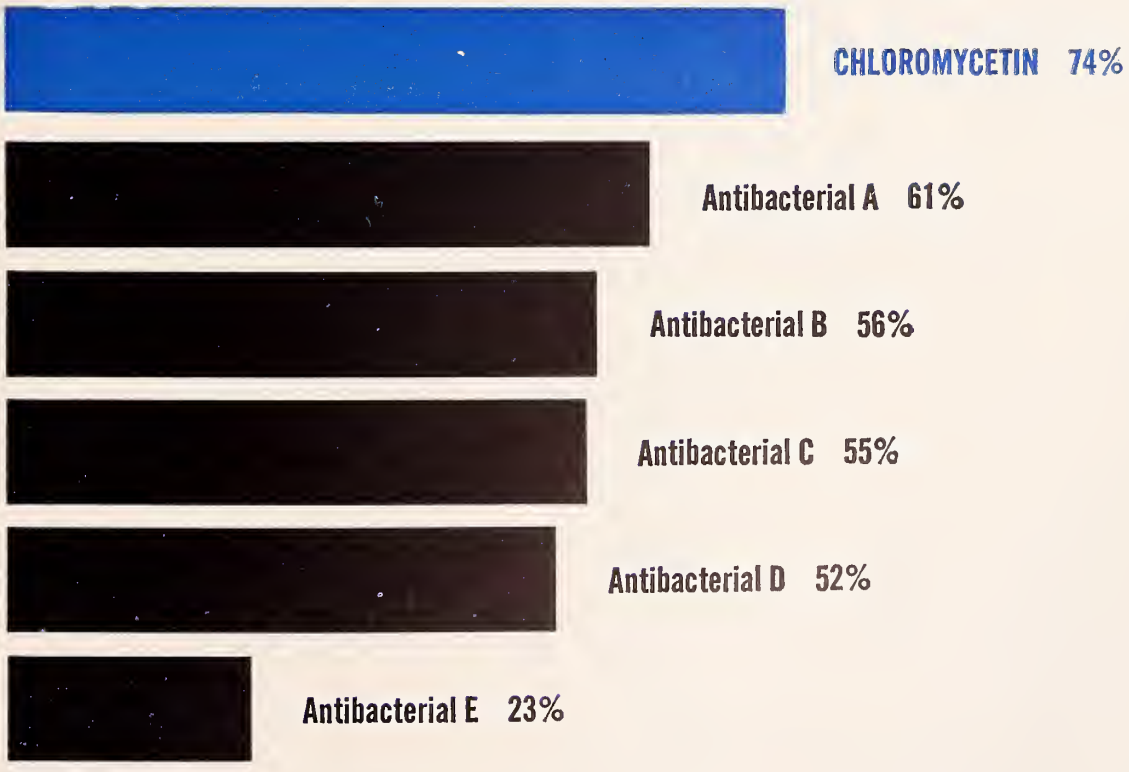
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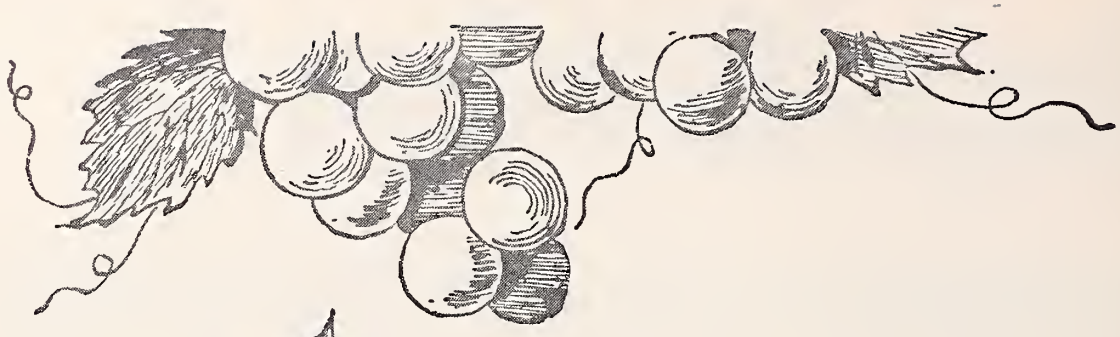
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*Floore, F. B.: Wine is Fine for Hospital Cookery, Mod. Hosp. 94:134 (June) 1960.

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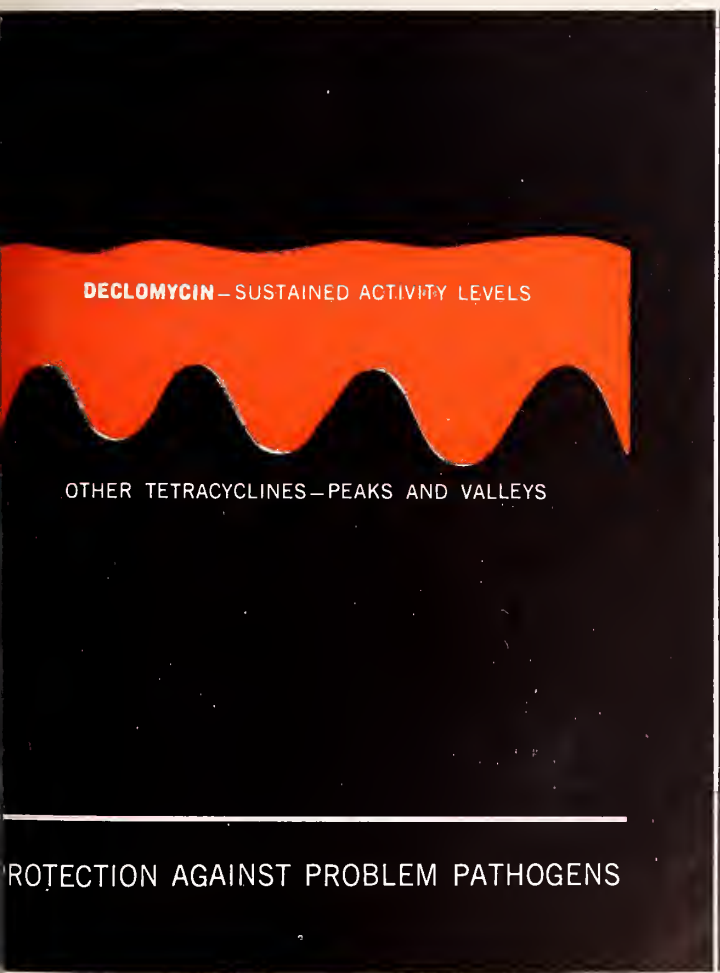
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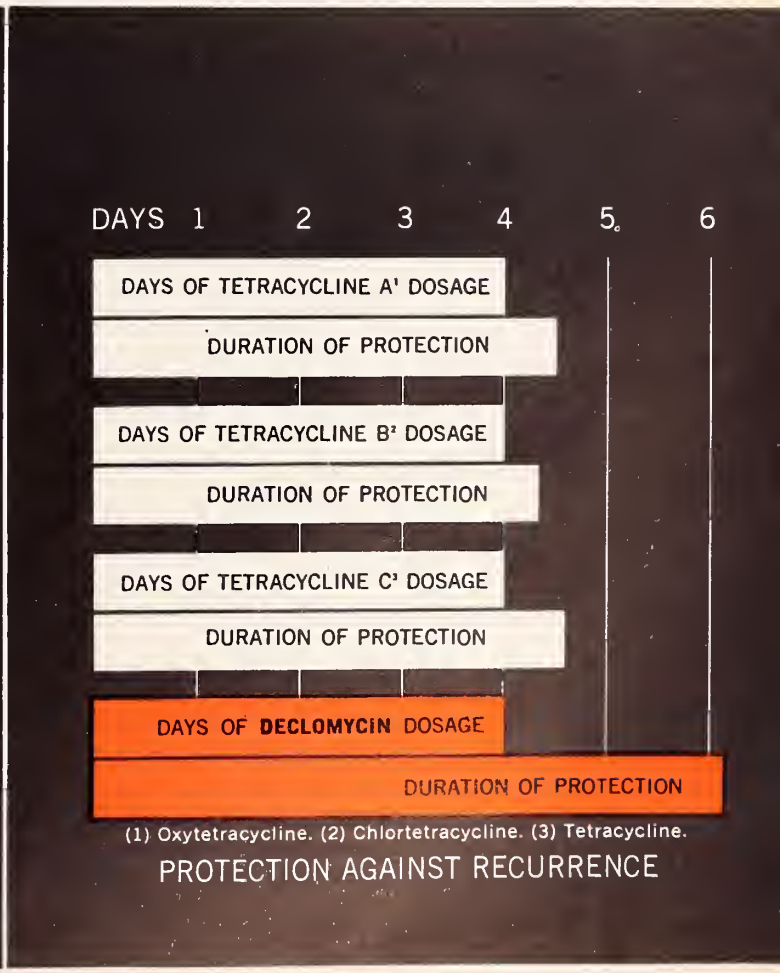
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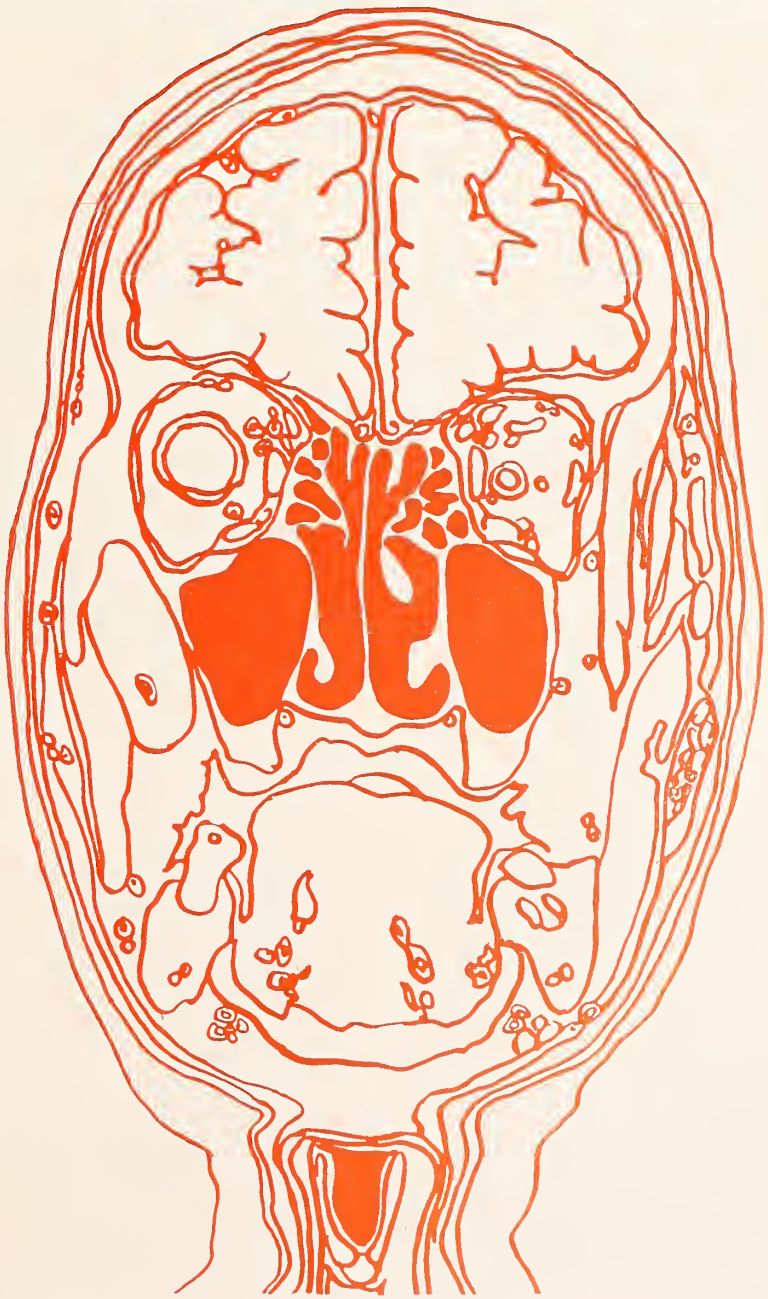
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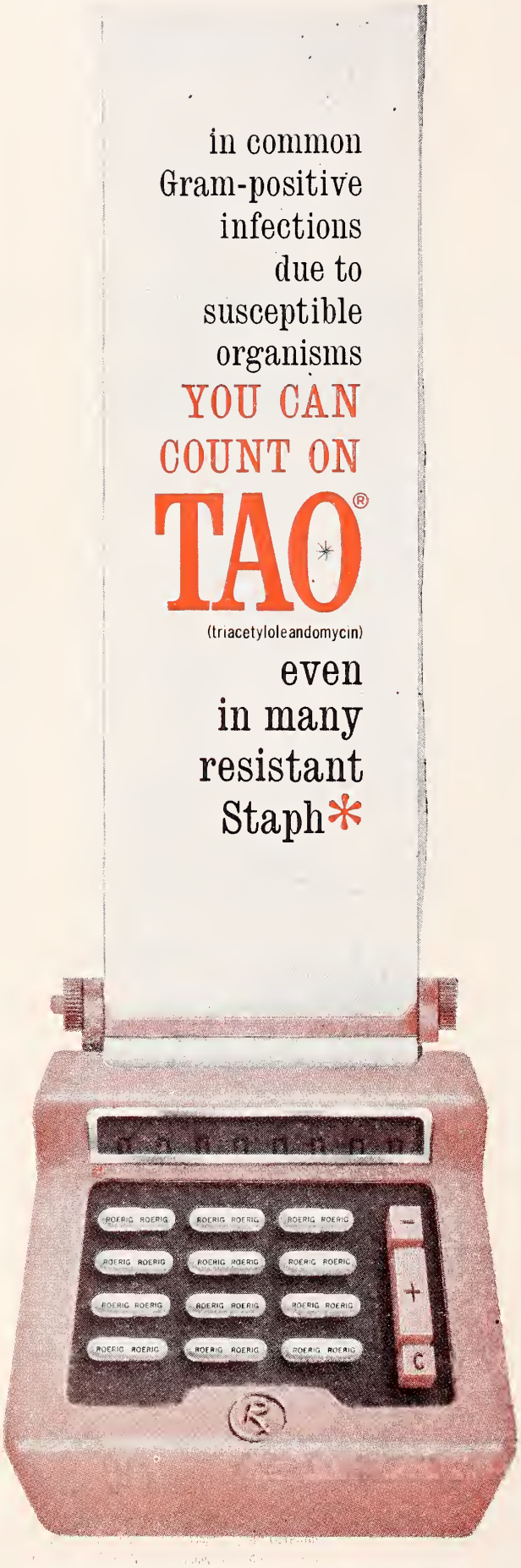


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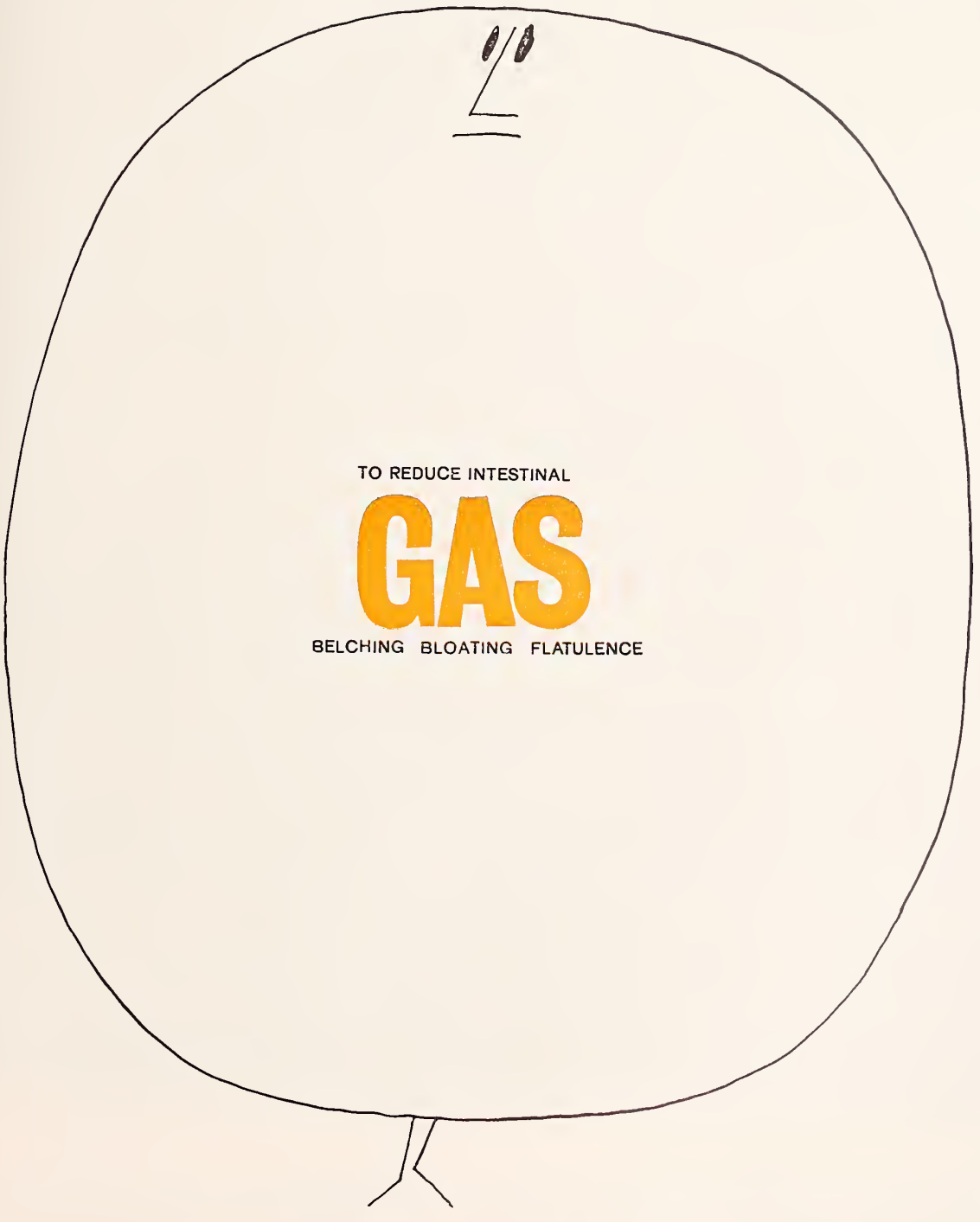
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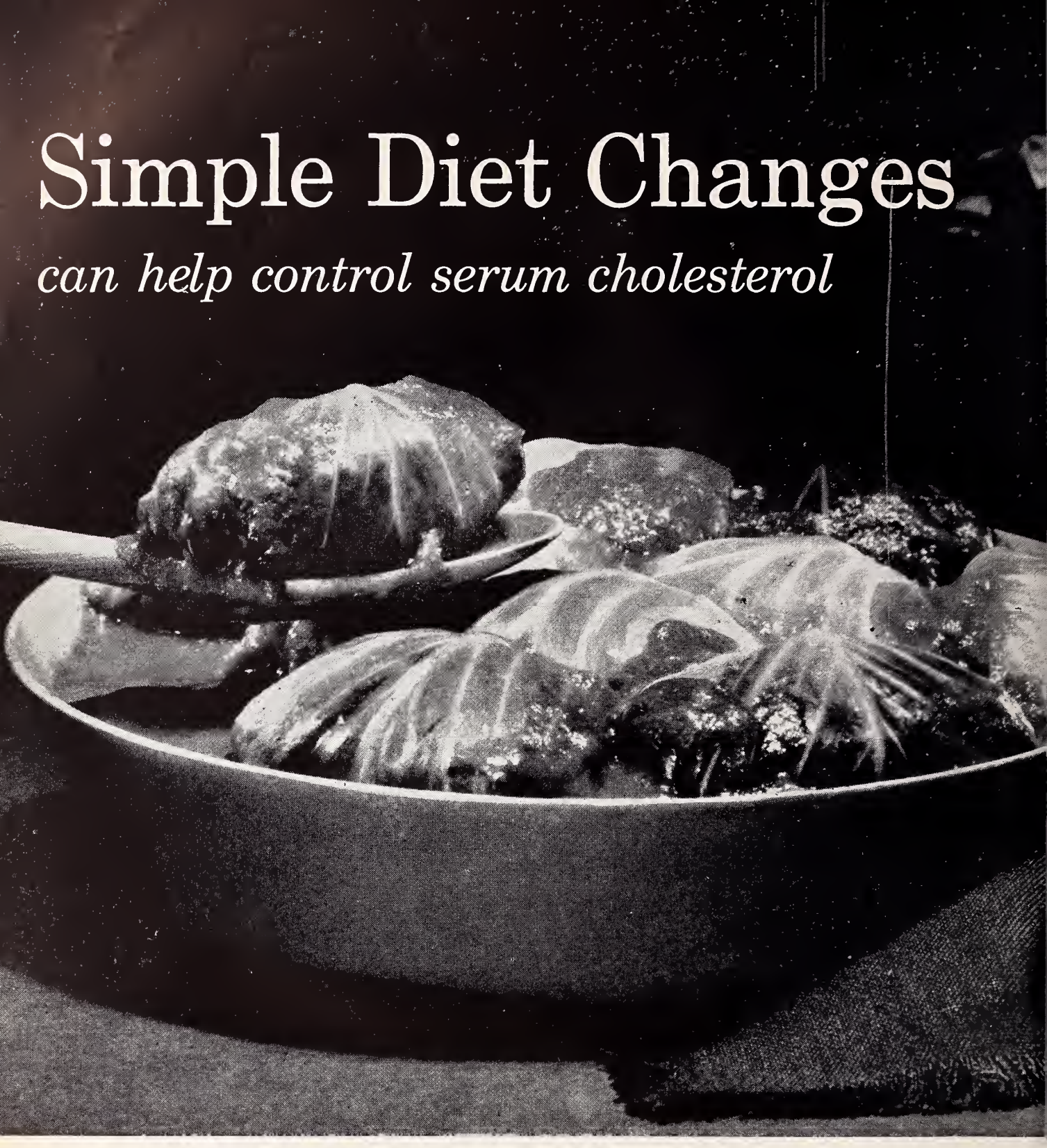
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References: 1. DeNyse, D. L.: *M. Times* 87:1512, Nov., 1959. 2. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 3. Gruenberg, Friedrich: *Current Therap. Res.* 2:1, Jan., 1960. 4. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 5. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: *Am. Pract. & Digest Treat.* 10:1743, Oct., 1959. 7. Shanaphy, J. F.: *Current Therap. Res.* 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

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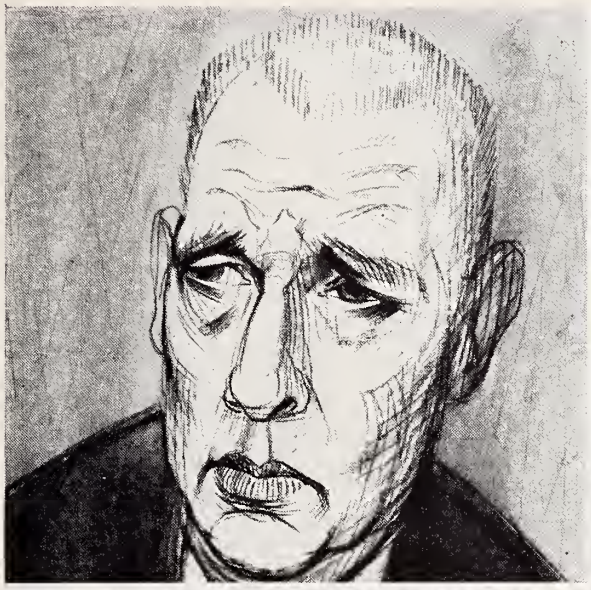


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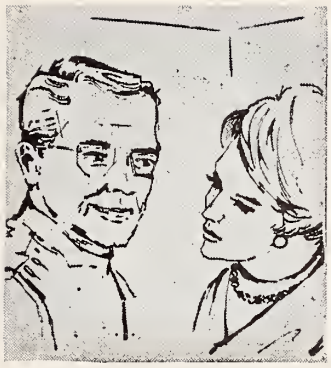
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1. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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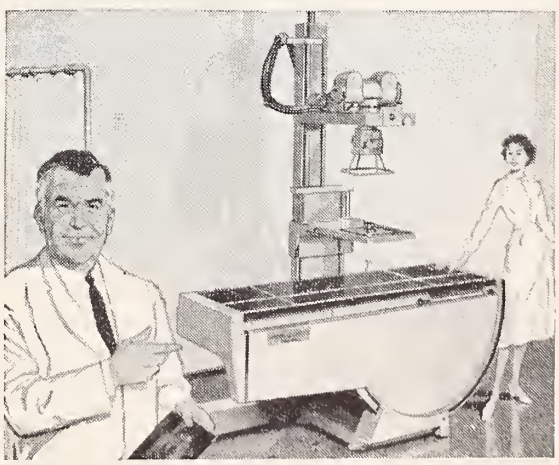
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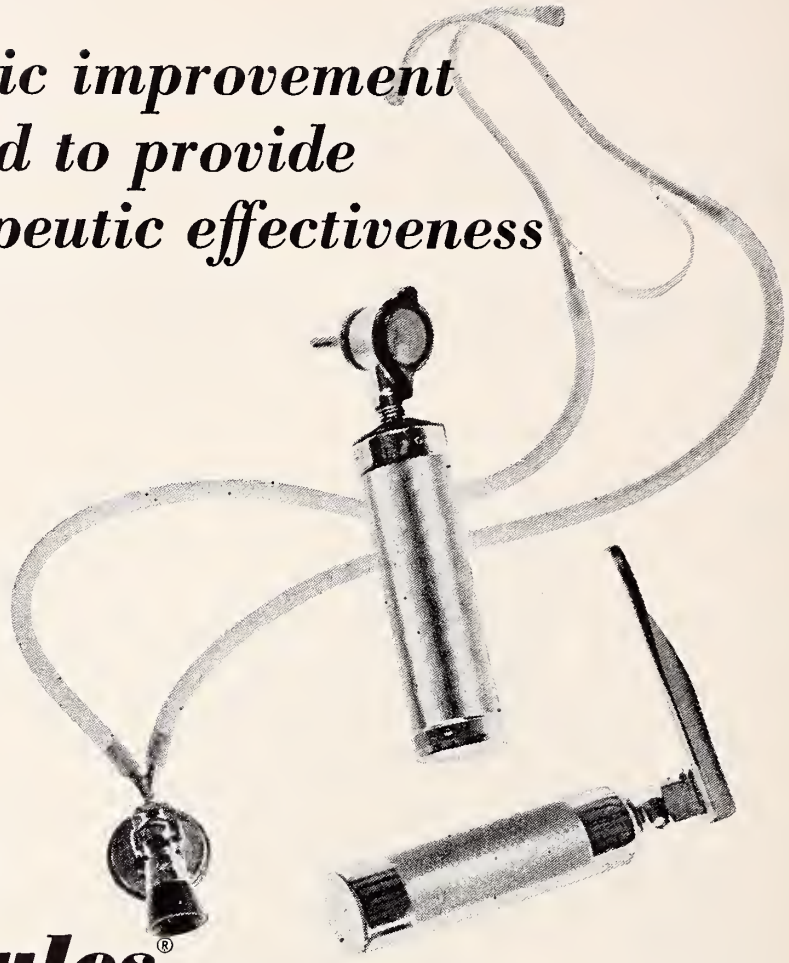
References: 1. Ford, R. V., Cur. Therap. Res., 2:51, 1960. 2. Pitts, R. F., Am. J. Med., 24:745, 1958.

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1. Stephens, V. C., *et al.:* J. Am. Pharm. A. (Scient. Ed.), *48*:620, 1959.
2. Salitsky, S., *et al.:* Antibiotics Annual, p. 893, 1959-1960.
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Original Articles

Arizona Medicine

Vol. 17, No. 11 November, 1960

Natural History of Thyroid Carcinoma*

Stuart Lindsay, M.D.

Department of Pathology
University of California School of Medicine
San Francisco, California

ALTHOUGH the prevalence and incidence of carcinoma of the thyroid gland are low when compared to other types of human neoplasms, thyroid carcinoma probably has a wider spectrum of growth and varying biologic characteristics than do most other malignant human neoplasms. There is both clinical and experimental evidence that thyroid carcinoma is the result of hormonal stimulation of the thyroid gland, and also that thyroid carcinoma is probably subject to biologic, endocrine control by the organism. The dependent nature of some thyroid carcinomas is important in their clinical management.

The data presented here were derived from a study of 293 patients observed at the University of California Hospital from 1920 through 1954 (1). The results of this study would seem to have some bearing on the choice of therapy in thyroid carcinoma. As part of a continuing study of thyroid carcinoma at this hospital, certain preliminary data from a survey of 1,211 cases of thyroid carcinoma from the California Tumor Registry will be cited as pertaining to the evaluation of therapy in this disease(2).

Carcinoma of the thyroid gland is predominantly a disease of females, occurring with a ratio of over 4:1. The disease occurs at all ages but peak incidences of the time of onset of goiter are found in the 20 to 30 and in the 50 to 60 year age groups. When calculated from the time of onset of carcinoma, peak incidences are found in the 30 to 40 and in the 50 to 60 year age groups. There are proportionately higher percentages of males in the first, third and seventh decades. When the age incidence of each of the three types of thyroid carcinoma is studied separately, papillary carcinoma is found to occur at all ages, with a peak incidence in the 20 to 25 year age group. Follicular carcinoma is also found in all age groups with a peak incidence in the 50 to 55 year age group. However, anaplastic carcinoma is mainly a disease of older individuals appearing in the majority of patients past the age of 50 years.

*Presented at the 8th Annual Cancer Seminar, Arizona Division, American Cancer Society, Phoenix, Ariz., January 14-16, 1960.

A classification of thyroid neoplasms is shown in Table I. There are probably two basic types of thyroid carcinoma, papillary and follicular. As the names indicate, papillary carcinoma is characterized by varying degrees of papillary formation in the neoplasm and often by the presence of calcific psammoma bodies; follicular carcinoma is characterized mainly by the formation of thyroid follicles.

TABLE I
CLASSIFICATION OF THYROID NEOPLASMS.

I. Benign
- A. Papillary adenoma
- B. Follicular adenoma
 1. Trabecular
 2. Macro or microfollicular
 3. Spindle cell

II. Malignant
- A. Papillary carcinoma
- B. Follicular carcinoma
- C. Anaplastic carcinoma
- D. Miscellaneous
 1. Malignant lymphoma
 2. Fibrosarcoma

Three subgroups of follicular carcinoma have been recognized in our studies:

1) Follicular variant of papillary carcinoma. Many thyroid carcinomas of this type have few, if any, papillary structures, although such a pattern may be observed in the metastases. The follicular variant of papillary carcinoma consists of cells with characteristic pale, opaque, relatively large nuclei identical to those of thyroid carcinoma with a predominantly papillary pattern. Our studies have shown that this form of follicular carcinoma, cytologically resembling papillary carcinoma, has a natural history identical to that of papillary carcinoma.

2) Localized follicular carcinoma. These neoplasms appear related to adenomas and have follicular or trabecular patterns, but display local vascular or capsular invasion.

3) Invasive follicular carcinoma. This type of carcinoma may originate from pre-existing follicular adenomas, although as a rule, the origin may not be demonstrable in such benign structures. Included in this group of invasive follicular carcinomas are medullary or solid carcinomas described by Hazard et al.(3), and characterized by the presence of amyloid in the stroma of the neoplasm.

Anaplastic carcinoma, as the name indicates, is an undifferentiated form of thyroid neoplasm displaying little or no follicular formation. Our studies have suggested that anaplastic or dedifferentiated carcinomas of the thyroid gland probably originate from either papillary or follicular carcinomas. Table II shows our present concept of these relationships. The highly malignant, giant-cell, anaplastic carcinoma may appear late in the course of papillary carcinoma. In some instances this form of anaplastic carcinoma may have an epidermoid component. In our studies we have observed carcinomas which were basically papillary, but which contained areas of anaplastic giant cell carcinoma either in the primary neoplasm or in lymph node metastases. This finding is a poor prognostic sign. Conversely, we have observed residual papillary areas in large, rapidly growing, highly malignant, anaplastic giant cell carcinomas. Medullary, spindle-cell and small cell carcinomas seem related histologically and cytologically to follicular rather than to papillary carcinoma, as shown by Table II.

TABLE II
ORIGIN OF ANAPLASTIC CARCINOMA.

Papillary
- Giant cell carcinoma
- Epidermoid carcinoma
- Large cell carcinoma

Follicular
- Medullary carcinoma
- Spindle cell carcinoma
- Small cell carcinoma

Comparison of patterns of neoplastic thyroid tissue observed at autopsy with the original surgical specimens, shows distinct trends toward dedifferentiation and anaplasia at the end-stage of the disease when compared to its beginning.

Sloan(4) has speculated upon the origin of anaplastic carcinomas, and noted the old age level at which these lesions usually occur. He also observed a large number of patients with pre-existing, slowly growing neoplasms suddenly showing rapid growth due to the development of giant cell carcinoma; he also recorded the finding of differentiated and undifferentiated patterns in the same neoplasm. More recently, Frazell and Foote(5) have also indicated "that long standing tumors might be expected to accelerate their invasive properties after years or decades of relative quiescence."

The study of patterns of growth of thyroid carcinomas is of considerable interest and importance. Vascular invasion is common, occurring in 15 per cent of papillary carcinomas, 55 per cent of follicular carcinomas, and in 48 per cent of anaplastic carcinomas. Approximately the same percentage of patients with papillary and anaplastic carcinomas eventually had distant metastases. However, less than half of this per-

centage of patients with follicular carcinoma eventually developed metastases to distant sites. Invasion of lymphatic channels adjacent to the primary neoplasm was found in 28 per cent of papillary carcinomas, in 11 per cent of follicular carcinomas and in 8 eight per cent of anaplastic carcinomas.

In our study, 30 per cent of the patients with papillary carcinoma had involvement of both thyroid lobes, resulting from invasion from the site of origin to the opposite lobe through lymphatic channels. Since not all patients in this study had been subjected to bilateral lobectomy, a higher incidence of bilateral involvement would be expected if both lobes were examined. Indeed, Clark et al.(6) have observed an incidence of 88 per cent of bilateral involvement in papillary carcinoma. Of the follicular carcinomas in our study, 21 per cent involved both lobes; all of these were of the invasive type. Localized follicular carcinoma by definition was a unilateral disease. Of the anaplastic carcinomas, 60 per cent were bilateral. Unlike papillary carcinomas, follicular and anaplastic carcinomas invaded the opposite lobe by direct and massive extension rather than by lymphatic permeation. The high incidence of bilateral involvement in thyroid carcinoma would seem a clear indication for total thyroidectomy.

Eventually growth of the neoplasm within the thyroid gland was followed by invasion beyond the thyroid capsule. This occurred in 31 per cent of the papillary carcinomas, 21 per cent of the follicular carcinomas and 92 per cent of the anaplastic carcinomas. Extraglandular invasion in thyroid carcinomas may occur at any age, but is relatively more common in the older age groups. However, this cannot be accounted for by longer duration of the disease in older individuals, since there seems to be no significant difference in duration of disease with or without extraglandular invasion at the time of the first operation.

Metastases in regional lymph nodes are extremely common in thyroid carcinoma. A summary of the incidence of early and late regional lymph node metastases in patients from the University of California Hospital is shown in Table III. An incidence of lymph node metastases in papillary carcinoma was observed in 47 per cent of patients at the Mayo Clinic(7). A much higher incidence of lymph node metastases in papillary carcinoma (84 per cent) was observed when the lymph nodes were examined routinely(8).

TABLE III
METASTASES IN REGIONAL LYMPH NODES

	Early	Late	Total
Papillary	44%	14%	58%
Follicular	25%	10%	35%
Anaplastic	52%	16%	68%

In comparing the incidence of early regional lymph node metastases in each of the three subgroups of follicular carcinoma, the incidence of lymph node metastases in the follicular variant of papillary carcinoma is identical with that observed in papillary carcinoma. Metastases to regional lymph nodes occurred in only one case of localized follicular carcinoma.

Of our patients with papillary carcinoma, 34 per cent had metastases in the ipsilateral cervical lymph nodes, whereas in 11 per cent contralateral cervical lymph nodes were involved. Approximately half of these latter patients had bilateral involvement of the thyroid gland. In eight per cent of patients with papillary carcinoma, metastases were bilateral.

A study of the location of lymph node metastases shows that these were found most commonly in nodes closest to the thyroid gland. When the nodes immediately adjacent are clinically involved, microscopic involvement of more distant nodes then as a rule is demonstrable. A similar location of involved cervical lymph nodes was described by Frazell and Foote(9). Lymph node involvement in papillary carcinoma occurs at all ages, although a higher proportion of patients in the younger age groups displays such lymph node involvement. In follicular carcinoma, metastases in regional lymph nodes are uncommon but occur at all ages.

Local recurrence of thyroid carcinoma following operation was found in 12 per cent of patients with papillary carcinoma, in 20 per cent of patients with follicular carcinoma and in 40 per cent of those with anaplastic carcinoma. Of the patients with papillary and follicular carcinoma with local recurrence, 50 and 55 per cent respectively are dead of the disease. Of the patients with locally recurrent anaplastic carcinoma, 80 per cent have died of thyroid carcinoma. In all instances these deaths resulted from local respiratory obstruction with or without local hemorrhage. Of the cases of papillary and follicular carcinoma, some patients had less than bilateral or total thyroidectomy. More radical removal of the thyroid gland should prevent

such local recurrence which has a high mortality.

Distant metastases in thyroid carcinoma rarely occur before the age of 40 to 50 years. This is in contrast to regional lymph node metastases which occur in a higher proportion of younger individuals.

Comparison of the incidence of distant metastases from thyroid carcinoma in patients with and without demonstrable lymph node metastases shows no significant differences between the two groups. This finding may suggest that distant metastases do not originate from regional lymph node metastases, but probably originate from the primary neoplasm in the thyroid gland. However, it should be noted that patients with demonstrable lymph node metastases had had these involved lymph nodes removed surgically, thus accounting for the lack of significant difference in the incidence of distant metastases in the two groups of patients.

Cumulative survival rates calculated by the methods of Berkson and Gage(10) and Merrell and Shulman(11) showed no significant differences in survival of patients with papillary and follicular carcinoma at 10 and 20 years after onset. Both types of carcinoma showed higher survival rates as compared to that of patients with anaplastic carcinoma. Similar differences in survival rates were also found after the time of operation. Comparison of cumulative survival rates of the three subgroups of follicular carcinoma showed no significant differences between the follicular variant of papillary carcinoma and localized follicular carcinoma at 10 and 20 years after onset. However, the survival rates of patients with these two forms of follicular carcinoma were significantly higher than those with invasive follicular carcinoma at 10 and 20 years. Similar differences in survival rates were found between these three subgroups of follicular carcinoma, when calculated from the time of operation.

Despite the belief that thyroid carcinoma is rarely fatal, this study has shown that 65 of the 293 patients (22 per cent) have died of thyroid carcinoma (papillary, 24, follicular, 20, and anaplastic, 21). In 29 per cent of these patients, death resulted from respiratory obstruction. The majority of deaths from all forms of thyroid carcinoma occurred after the age of 40, only six patients died before age 40. Although the incidence of papillary carcinoma is higher in the younger age groups, only five patients with papillary carcinoma have died before the age of 50. Significantly more males than females died of papillary carcinoma. There was no significant difference in the number of deaths in males and females from follicular and anaplastic carcinoma.

Although eventually fatal, thyroid carcinoma is compatible with long periods of survival, even in the presence of distant metastases. One patient with papillary carcinoma in this study survived over 35 years from the onset of the disease, and two patients with follicular carcinoma survived between 40 and 50 years from onset. The majority of patients with anaplastic carcinoma showed considerably shorter survival, although a few with small cell anaplastic carcinomas have shown survival over 15 years after onset.

Based on this study of the natural history of thyroid carcinoma, some proposals for the surgical therapy of the disease may be made. Because of the high incidence of involvement of both thyroid lobes in thyroid carcinoma, and because of frequency (29 per cent) of death from local respiratory obstruction, it would appear that total thyroidectomy should be performed. Exceptions to this rule would include: 1) giant-cell anaplastic carcinoma, which does not appear curable by any form of therapy, and 2) localized follicular carcinoma, which in our study has not been observed to spread to the opposite lobe. Such localized follicular carcinomas may be adequately treated by total lobectomy and resection of the isthmus.

Because of the high incidence of metastases to regional lymph nodes in this and other studies, radical removal of ipsilateral cervical lymph nodes should be carried out. Our studies have shown frequent invasion of blood vessels and lymphatic channels between involved cervical lymph nodes, and it seems obvious that such tissue would not be removed by simple, local removal of cervical lymph nodes.

The results of this study further suggest the advisability of more radical therapy in males, particularly those with papillary carcinoma, and in all patients over the age of 40, when thyroid carcinoma appears to act in a more aggressive fashion.

Significant statistical evaluation of various forms of therapy cannot be made on this or other similar studies of patients with thyroid

carcinoma. Comparison of survival of patients treated by various forms of therapy including various forms of surgical therapy should include comparisons of: 1) histologic types of carcinoma, 2) sex of patients, 3) various age groups, 4) stages of disease, including localized disease, regional and distant metastases, 5) type of operation, including local excision, total thyroidectomy, radical neck dissection, and 6) a followup of well over 20 years following surgery.

An attempt at such a statistical evaluation of various forms of therapy in thyroid carcinoma is now being made at the University of California Hospitals(2). The study is based on 1,211 cases collected by the California Tumor Registry. One conclusion made so far appears significant. Patients with thyroid carcinoma treated by surgery or radiation or both show significantly higher survival rates than do patients with thyroid carcinoma who have not been treated. This finding should offer encouragement to thyroid surgeons, since the prolonged course of many patients with thyroid carcinoma has provoked many questions regarding therapy in this disease.

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WYETH LABORATORIES
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El Tratamiento Actual de la Hipertension

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Me pareció bien comenzar La discusión con un repaso de los antecedentes en el tratamiento de la hipertension antes de entrar de lleno en la discusioñ de las drogas específicas porque gran parte de lo que hoy estamos haciendo y definitivamente mucho de lo que se hacía en el pasado varía dc un dia para otro y las drogas van y vienen pero la hipertensión permanece. Al menos esa es mi filosofia: la hipertensión como la úlcera péptica o la colitis y otra enfermedades cronicas a las cuales todos estamos predispuestos continuara existiendo como un problema clínico. Por lo tanto, con la venia de ustedes, voy a repasar el fondo filosófico de la etiología y la patogénesis de esta enfermedad, relacionándola estrictamente con casos clínicos y a la par desligañdola hasta donde fuera posible del campo experimental en el laborstorio.

Permítanme sugerirles un modo de clasificar la hipertensión arterial desde el punto de vista de etiología. Como ustedes saben tenemos la hipertensión primaria o esencial, la hipertensioñ renal o nefrítica, la adrenal y la neurogénica, la coarcatación de la aorta y la de toxemias gestativas. Quizás existan otras formas más raras pero siempre que vemos un enfermo con la presión elevada debemos revisar ligeramente en nuestras mentes todas estas posibilidades. Algunos casos se despachan luego: por ejemplo, la coarctación de la aorta. La hipertension de toxemia gestativa no hay que considerarla nada más que an la mitad de la población y solo cuando hay embarazo.

La hipertensión primaria o esencial incluye todos aquellos casos que no caben dentro de uno de los otros grupos; es un grupo que abaraca todos los casos que no podemos diagnosticar después de eliminar las otras causas. Vamos pues a hablar digeramente de esas otras causas. Cada día nos vamos impresionando más y más con la frecuencia de padecimientos nefríticos como antecedentes o concomitantes en los casos de hipertensión. Generalmente el padecimicnto renal es bilateral y se manifiesta en la forma de pielonefritis, enfermedad muy común si se hace todo el esfuerzo posible por diagnosticarla haciendo si fuera menester hasta una biopsia del riñon. Desgraciadamente en la myoría de los casos la enfermedad es bilateral. Digo desgraciadamente porque hasta hace poco (y esto tambien puede cambiar) nosotros creíamos que podíamos aliviar al enfermo con hipertensión renal unilateral mediante la nefrectomía.

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Ustedes quizás noten en mi un aire de escepticismo en cuanto a la sabisduria de someter estos enfermos a la cirugía. Más adelante volveré al asunto.

En la hipertensión adrenal tenemos por supuesto los feocromocitomas. Estos tumores no son difíciles de diagnosticar si pensamos en la posibilidad de su existencia y sobretodo si pos tomamos el trabajo de analizar una o dos muestras de orinas de 24 horas para la excreción de las catecolaminas. El aldosteronismo primario se diagnosticaba sin dificultad antes de que se usaran los diuréticos en el tratamiento de la hipertensión: solo bastaba hacer una dosificación serológica del potasio. Ahora hay que recurrir a técnicas más dificiles. Podriamos, de todos modos, suspender los diuréticos y repetir la dosificación del potasio pero hay casos en que el potasio serológico no vuelve a su nivel previo antes de que transcurran varias semanas. El síndrome de Cushing se ha hecho muy familiar desde que los médicos hemos estado usando las drogas esteroideas. La frase "sindrome adrenogenital" no se refiere a los niños- yo no se nada de endorcrinologia pediátrica- sino a una condición que se caracteriza por el virilismo con hiperplasia difusa de las adrenales y con hipertensión. El diagnóstico de este sindrome tambien es fácil siempre que se piense en la posibilidad de su existencia. Existen otras formas de hipertensión neurogénica como las causadas por el mecanismo de Cushing (el mismo Cushing pero otra enfermedad) es decir, por el aumento de la tensión intracranial como en el caso de un tumor intraranial. De vez en cuando vemos hipertensión en la poliomielitis en casos de tabes u otras mielopatías raquideas y en algunos casos de polineuritis. En estas últimas condiciones el dolor intenso explica muchas veces la existencia de la hipertensión que viene siendo mas bien psicaoneurogénica que neurogéncia. La hipertensión de la coractación de aorta es del conocimiento de ustedes y no nos detendremos en la discusión de las toxemias del embarazo aunque estos casos no dejan de ser sumamente interesantes.

El siguiente paso en nuestra discusión es la exploracion de las diferentes posibilidades del diagnóstico después de haber revisado ligeramente en nuestra mente todas las condiciones anteriormente mencionadas. Qué pasos tomaremos para precisar más en nuestro diagnóstico? Hay ciertos estudios rutinarios que se deben hacer y luego hay ciertas investigaciones que se pueden hacer si el caso lo amerita. En primer lugar la presión se debe medir en ambos brazos y si se sospecha la coarctación de la aorta también la presion se debe medir en ambas piernas. Además hay que recalcar la importancia de tomar la tensión con el paciento de pies, sentado y acostado. Si la presión baja cuando el paciente se pone de pies hay que echar a un lado la hipertensión esencial o primaria porque en esta condicion la presión sistólica y la diastólica generalmente suben. De manera que el enfermo en que se note un descenso de la presión diastólica al ponerse de pie probablemente padece de hipertensión que no es primaria. Cuando la tensión en las extremidades inferiores es baja relativa a la que se encuentra en las extremidades superiores la probabilidad de coarctación de la aorta aumenta. Las dosificaciones sanguíneas de rutina y en particular los niveles de sodio, potasio, y el nitrógeno ureico son muy importantes al hacer un prognóstico del caso tanto en la presión esencial como en las demás clases de hipertensión. Actualmente tambien nos interesa mucho hacer un estudio básico del nivel de colesterol en la snagre de estos enfermos. En la discusión de mañana entraré más en detalle en el porqué de estos estudios. Por supuesto que siempro se hace análisis de orina completo incluyendo albúmina, glucosa etc., pero nostors creemos que la prueba clínica de mas significado en estos casos es la excreción de fenolsufonptaleina en la orina, aún en aquellos casos que el nivel de la urea en la sangre es normal. Creemos que esta prueba se debe hacer con sumo cuidado. En primer lugar el enfermo debe estar bien hidratado antes de inyectarle el tinte. Toda la orina que se elimine al cabo de los primeros quince minutos de despues de la inyeccion se recoge en un frasco. Asegúrense de que el enfermo recoge toda la orina que elimine en quince minutos exactos, ni más ni menos. Esto no quiere decir cue el enfermo debe o pude orinar antes de que se le inyecte el tinte. Quiere decir que al cabo de quince minutos después de la inyeccion el enfermo debe orinar hasta vaciar la vejiga por completo. Muchos enfermos creen que todo lo que usted desea es una muestra de orina. La muestra de los primeros quince minutos debe contener por lo menos el 25% de la cantidad de tinte que se le inyectó. Si los rínones eliminan menos del 15% del tinte en los primeros quince minutos usted encontrará que ese enfermo tam-

bien tiene probablemente el nitrógeno ureico en el límite o sobre el límite de lo normal: ambos son malos signos prognósticos. Ahora, terminamos la prueba de fenolsulfonptaleina recogiendo la muestra de la media hora, la hora y las dos horas. El valor de las últimas muestras no es más que para comprobar que la prueba se hizo debidamente porque la mayor parte del tinte se eliminara en los primeros quince minutos. Si el laboratorio le informa a usted que el paciente eliminó el 10% en los primeros quince minutos y el 35% en los quince minutos subsiguientes usted sabe que hubo algun equívoco, las muestras se confundieron o el paciente no vació al vejiga al cabos de los quince minutos y ademas usted puede deducir que si el 50% del tinte se eliminó en los primeros 30 minutos la condición renal no es ton mala como la primera muestra indicaba. Yo siempre trato de explicarle al enfermo el procedimiento de esta prueba porque cuando se hace bien y se puede hacer muy fácilmente en la oficina) esta prueba es muy valiosa para evaluar la condición renal del paciente.

Los pielogramas excretorios también son sumamente valiosos en el estudio básico del hipertenso. El doctor Meilman opina que la primera radiografía debe tomarse al cabo de tres minutos despues de la inyección del tinte, cualesquiera que fuera este, porque cuando hay un rinón deficiente la materia radiopaca no se eliminará por ese rinón durante los primeros tres minutos. Para empeorar la situación a menudo se ve que si se espera cinco o seis minutos para tomar la primera placa el rinón enfermo a menudo parece haber concentrado más la substancia que el rinón bueno. De manera que si al cabo de tres minutos el tinte aün no se ve en uno de los riñones podemos concluir que probablemente ese rinón carece de buena circulacion auñ cuando más tarde ese mismo rinón parece haber concentrado el tinte mejor que el otro. Como ustedes saben cuando hay una obstrucción a la circulación en un rinón ese rinón puede concentrar a orina a un nivel bastane alto: esa es la base de la prueba de Howard. Para asegurarnos de que no hay deficiencia cardiaca debemos hacer radiografia y fluoroscopia del pecho y además una electrocardiografia.

Tambien podríamos clasificar la hipertensión desde el punto de vista del prognóstico porque después de todo si usted conoce bien el caso usted puede muchas veces predecir lo que la hipertension va a causar y que curso va a seguir dentro de un periodo determinado basando su conclusión en lo que usted ha observado en el transcurso del la enfermadad. Un paciente que lo ha pasado mas o menos sin novedad por espacio de digamos cinco años probablemente pasara el proximo año tambien sin novedad, a menos que occura un accidente cerebrovascular o coronariano, o a menos que la hipertensión entre en una etapa acelerada o maligna.

La mayoría de los casos se han clasificado como "benignos", pero ahora nosotros preferimos no llamarlos benignos porque después de todo estos casos cuando no se tratan debidamente acortan la expectativa de vida por hasta unos veinte años, de 72 a 52. El curso de la enfermadad es generalmente largo, de 20 anos ó mas, a menos que la enfermedad entre en la etapa maligna que en parte se debe a la retención de la sal y del agua. A menudo nosotros consideramos que la etapa maligna puede ser iniciada por uno de dos mecanismos o por los dos en combinación: primero una insuficiencia cardiaca subclínica y algun trauma emocional severo.

Otra manera de clasificar los hipertensos es a base de lo que vemos en los repetidos examenes que les hacemos. Podemos tener un hipertenso completamente libre de complicaciones: digamos una mujer de unos 34 años de edad, un tanto obesa, con una tensión arterial de unos 190 sobre 110, con examen fundoscópico totalmente negativo. A menudo en un caso así encontraremos historia de hipertensión o de sus complicaciones en la familia, pero lo mas probable es que si el caso es de suficiente duración encontremos complicaciones bien sea en los ojos, el corazón, la aorta y sus ramificaciones principales, el cerebro o en los riñones. Estas son las areas vulnerables y los ojos reflejan la situación del cerebro. Por lo tanto haga usted un examen cuidadoso del fondo ocular, del corazoñ, incluyendo una electrocardiografia y de los riñones. La condición renal es muy importante sobretodo para fines del prognóstico porque un enfermo que tiene manifestacion es de insufuciencia renal con retención del nitrogeno tiene un prognóstico grave a pesar de lo que usted le haga. Pero aun esos casos deben someterse al tratamiento enérgico como las voy a comprobar más adelante.

Ahora vamos a repasar lo que sabemos de esta enfermedad a base da estos factores. Sabemos definitivamente que los riñones son de suma

importancia y sin duda la causa primaria en algunos casos de hipertensión, pero es muy dudoso que los riñones sean le causa primaria en la mayoria de los casos. Cuando estamos seguros de que la hipertensión es primaria o esencial no la llamanos nefrítica pero tenemos que llamarla nefrítica hasta que descubramos que es renal. Ultimamente hemos tenido que rectificar en muchísnimos casos un diagnóstico establecido y cambiarlo de esencial a nefrítico. Por mi parte usted no puede diferenciar en muchos casos entre el diagnóstico de esencial y el nefrítico sin hacer los estudios de laboratorio antes mencionados. Sin embargo es muy dudoso que la mayoria de los enfermos con hipertensión esencial tengan patología renal primaria porque el doctor Smithwick y otros cirujanos hicieron miles de biopsias del rinón mientras hacian simpatectomías en estos enfermos y el tejido renal estaba normal o ligeramente afectado en la mayoria de ellos excepto en los casos mas avanzados. De manera que a mi se me hace muy dificil creer que la patología renal inicia la hipertension en la mayoria de los hipertensos.

Muchos médicos siempre opinan que alguna deficiencia renal es el elemento causante; por ejemplo una reacion neurogénica a un esfuerzo o como opina el doctor Smithwick, una hiperreacción a la posición vertical como les habia yo señalado anteriormente. No sabemos con certeza si la reacción es emocional, posicional o una combinacion de estos factores de esfurrzo pero parece que los vasos del riñón se contraen en una forma excesiva como reacción neurogénica en los enfermos hipertensos. La vasoconstricción trae como consecucncia una disminucion en el flujo de sangral riñón y un aumento en la fracion de filtración. Con el tiempo se produce un cambio estructural en el riñón que los patólogos denominan nefroesclerosis y que ocurre principalmente en las arteriolas y las arterias más pcqueñas. No me refiero a la arteriolitis necrotizante de caracter inflamatorio que a menudo vemos en la hipertension maligna. Me refiero al cambio estructural visible en forma de engruesamiento de las arterias pequeñas y las arteriolas que va acompañado de una disminucion en el flujo de sangre al rinón y un aumento en la fracción de filtración de esc órgano.

En cuanto a los factores neurogénicos o psicogénicos es mi opinión que el hipertenso familial típico es un individuo ansioso que reacciona en forma más violenta a las situaciones. Ustedes recordaran la señora Grummage en David Copperfield. Esas personas sencillamente reaccionan con más violencia. Yo no creo que sientan más los estímulos aunquc ellos así lo afirmen: por ejemplo, ellos dicen que el agua helada que se usa en la prueba del frío es insoportable y puede que así sea porque ellos reaccionan con una elevación exagerada de la tensión arterial. Sin embargo si usted pone a esos individuos a descansar en cama generalmente en el término de una semana la presión bajará muchas veces hasta un nivel normal. En mi opinión estos individuos son decididamente hipertensos aunque algunos clínicos opinen que no. Yo baso mi opinión en el hecho de que en estas personas frecuentemente encontraremos los demás signos y síntomas de hipertensión como la hipertrofia del corazón, los cambios oculares y la disminución en el flujo de sangre renal a que me referí anteriormente. Aún así cuando estas personas guardan cama la presión baja a niveles a menudo normales; y si usted refuerza el descanso en cama con calmantes como el amital sódico muchas veces estos enfermos mejoran en forma aguda de un dia para otro. Esta observación es importante desde el punto de vista del tratamiento porque estos enfermos sencillamente son los más fáciles de tratar y con menos riesgo. Pero si la presión no responde bien al descanso y al uso de calmantes el prognóstico en cuanto al uso de drogas es más dudoso aunque no irremisible. Yo me siento muy contento cuando veo la gráfica de la prueba del descanso y los calmantes y observo que la presión ha bajado digamos a unos 130 sobre 90 u 80 durante la noche. Como ustedes saben los rusos, que adoran a su Pavlov, están empenados en probar que la hipertensión esencial no es mas que un reflcjo acondicionado. Los experimentos que se han hecho en ese sentido son por demás interestantes pero no tengo el tiempo para discutirlos en mas detalla aquí.

Es cierto que muchos hipertensos mejoran aun con la psicoterapia superfical que yo puedo brindarles. Una de las ventajas de las drogas como la reserpina es que facilita mucho la psicoterapia y sobretodo economiza el tiempo y el esfuerzo emocional del médico. Hay muchos psiquiatras que saben darle al enfermo ese sentido de seguridad tan esencial en el tratamiento de la hipertension y cuando lo hacen la presión inmediatamente baja. A veces yo le digo a mi senora que

mi psicoterapia consiste en vaciar mis reservas de seguridad emocional sobre el enfermo y cuando terminamos el enfermo se siente mucho mejor pero yo me siento peor que el enfermo cuando empezamos. Como quiera que fuera la psicoterapia ayuda mucho en el tratamiento de este mal tan común: no tien que ser una psicoterapia minuciosa o experta, basta con la psicoterapia que usted y yo, los legos en ese campo, podremos brindarle al enfermo. Lo que más necesita el enfermo es apoyo emocional y es nuestro deber dárselo. A mi además me gusta darles las drogas tranquilizantes en dosis moderadas.

Volvamos al asunto del factor familiar en la hipertensión esencial. Se han hecho muchos estudios, aunque citaré unos pocos, para comprobar la teoria de que la hipertensión de este tipo es de carácter familial. No hay duda de que esta enfermedad se manifiesta con más frecuencias en personas de la misma familia. Puede que no sea el mismo rasgo que se refleja en la arterioesclerosis. Claro que el prognóstico es mucho más dudoso en el enfermo que tiene ambos rasgos. Como la diabetis esta enfermedad se desarrolla a una edad relativamente avanzada pero si usted se toma el trabajo de indagar cuidadosamente encontrará historia de hipertensión en la familia de la mayoria de esos enfermos. El doctor Longscope en la Universidad de Johns Hopkins decia: "Nunca diga usted 'nunca' ni 'siempre' en medicina porque tan pronto como haga la afirmacion habrá quien diga: 'Pues yo tuve un caso . . .' "

Los estudios de Ayman en niños tienden a confirmar la teoria de que la hipertension es una enfermedad hereditaria. El doctor Ayman estudió aredeodor de 780 ninos cuyos padres y abuelos él conocia bien. En este grupo habia gemelos uni- y bivitelinos, y hasta hermanos ternos. Yo no quiero entrar en los detalles de este estudio pero basta decir que de 32 niños cuyos padres tenían presión, arterial normal solo uno registraba una presion que alcanzaba el límite mayor de la presión para su edad. Si eso no basta el siguiente grupo nos convencerá. De 55 ninos cuyos padres tenian presion arterial decididamente alta, 25 tenían presiones de más de 150 sobre 90. (y ninguno de esos niños tenia más de 12 anos de edad). Naturalmente el doctor Ayman concluye que la hipertension es hereditaria. Yo he tratado de evadir el uso deltérmino 'hereditario' y prefiero el termino 'familial'. El nino nace a la familia y en la familia, de manera que su personalidad refleja los rasgos puramente hereditariost los adquiridos. Sin embargo, a mi me parece que el doctor Ayman cree que la hipertensión esencial es un rasgo mendeliano.

Platt en Inglaterra atacó el problema en forma diferente. De los enfermos estudiados por este doctor seis de cada siete tenían hipertensión primaria y todos fueron escogidos en la certeza de que cada uno de ells tenía antecedentes hereditarios de hipertensión. De los enfermos que no tenían historia de hipertensión en la familia tres de cada cuatro tenían otra enfermedad. Vamos a revisar los resultados de este estudiante en enfermos hipertensos y con patología renal unilateral. De primera intención la mayoria de nosotros caeríamos en el error de asumir que si un enfermo tiene enfermedad renal unilateral con hipertensión, la hipertensión se debe a la enfermedad unilateral. El doctor Platt sin embargo demostro que, al menos a base del tratamiento, no podemos derivar tal conclusion. De 23 enfermos con antecedentes familiares y con enfermedad renal unilateral solo once, o sea menos de un 10%, de los pacientes estudiados mejoraron con la nefrectomía; mientras que de los que no tenian antecedentes hereditarios 8 de cada 12 mejoraron despues de la nefrectomia. De manera que, es sumamaente importante que usted investigue los antecedentes familiares de cana uno de estos enfermos. Pregunte si alguien más en la familia sufre la enfermedad, si su madre tuvo alguna complicación de embarazo, si su padre tuvo algun accidente cerebrovascular, si sus abuelos viven a que edad murieron. Si sus cuatro abuelos murieron digamos a la edad de 85 años y si sus padres todavía viven, el factor de la herencia aún cuando tuviera una tendecia a la hipertensión no es muy importante porqué la historia de la familia en general esta contra una hipertensión muy severa.

Vamos ahora a enfocar nuestra discusión en el tratamiento de la enfermedad. Tendremos nosotros una buena razón para sentirnos satisfechos cuando vemos a presión de un enfermo bajar mientras está tomando ciertas drogas? Ya hemos concluído que la hipertensión esencial es una enfermedad hereditaria que posiblemente obedezca a las leyes de herencia de Mendel. La doctora Caroline Thomas hizo algunas observaciones muy interesantes entre sus estudian-

tes en John Hopkins. Escogio un grupo de estudiantes de antecedentes familiares de hipertensión. Cuando esos esudiantes se sometían a cualquier esfuerzo emocional, como presentarse a examen, manifestaban signos de hiperreacción del sistema cardiovascular con elevación de la presión y el pulso. Hay individuos que reaccionan con exceso por medio de otros sistemas como los que al someterse al esfuerzo emocional desarrollan diarrea o vómitos. Esta reacción excesiva puede ser mediante el sistema nervioso central o el autónomo, mediante los rinones o las glándulas endocrinas. Posiblemente durante el esfuerzo las endocrinas vacían una cantidad excesia de substancias corticoideas en personas con tendencia a la hipertensión. Tarde o temprano la enfermedad vascular se establece en forma inequívoca y cuando se establece generalmente esa enfermedad es de carácter secundario y no primario. Comoquiera que sea cuando el mal se arragia el enfermo entra en un circulo vicioso de empeoramiento y perpetuación sobretodo cuando el rinon está afeetado. Esto se ha comprobado en forma definitiva en los animales.

Bajo la influencia de estos diferentes mecanismos el nivel basico para la proteccion homeostática de la presión gradualmente va subiendo. Una persona normal protege su presion alrededor de unos 120 sobre 80. Los hipertensos alcanzan un nivel básico más alto y siempre reaccionan con tanta violencia como los individuos normales para reponer la presión a su nivel básico cuando por alguna circunstancia la presión baja. Tal parece que estas personas tienen como si dijeramos su "baroestato" ajustado a un nivel más alto. Al menos esta es una hipótesis interesante y hay mucha evidencia en su favor.

La hipertensión, fuere cual fuere su causa, se mantiene reversible o fisiológica mientras no se establezcan las lesiones vasculares permanentes, sobretodo en los rinones. "Reversible" sencillamente significa la condición de la presion de poder volver a un nivel más bajo o aceptable en términos clínincos sin que el paciente sufra malestares como mareos, debilidad u otras senas de isquemia en algun órgano.

Volvamos a las drogas que tenemos a nuestra disposición para combatir la hipertensión. En términos generales contamos con las siguientes categorías: los derivados de la Rauwolfia serpentina, los derivados del Veratrum viridis, que todavia tienen sus indicaciones sobretodo en personas mayores, el grupo de los clorotiazidos neutralizantes ganglionares que ya no son realmente bloqueadores de ganglios sino de las reacciones adrenérgicas. Este último grupo de drogas, los "bloqueadores" adrenérgicos, ofrecen muchas ventajas sobre sus antecesores porque no producen estrenimiento, atonia de la vejiga urinaria o malestar ocular por la razon de que no interfieren con los impulsos colinérgicos. Más adelante volveremos a hablar de este grupo.

Ahora bien: Cómo escogeremos los casos para fines de tratamiento? La respuesta es: los casos no se escogen. Como médico naturalmente usted está obligado moralmente a brindarle alguna forma de tratamiento a cualquier enfermo que se lo solicite. Claro que cada uno de nostros debe de tener en su mente una idea de la respuesta que se puede esperar al tratamiento en un caso dado, para nuestra propia satisfaccion y para la satisfaccion de la familia del enfermo. A veces los médicos nos olvidamos de que uno de nuestros deberes principales es definir hasta donde se pueda el prognóstico de cada caso. El enfermo y sus familiares lo exigen y usted, si lo sabe, debe decírselos. Claro que el prognóstico que usted pueda hacer depende de su jucicio clínico y este depende en gran manera de su experiencia. Ya hemos dicho que el enfermo que no tiene antecedentes familiares de hipertensión tiene un buen prognóstico sobretodo cuando la enfermedad aün no se ha fijado con cambios organico-patológicos en el rinon, el corazón o el cerebro. El enfermo que tiene cambios orgánicos en el rinon tiene un mal prognóstico no importa lo que usted haga. Puede que usted logre bajar la presión en estos individuos pero muchas veces tan pronto usted les baja la presión la uremia empeora porque parece que ellos necesitan una presión elevada para filtrar la orina por el rinon obstruido. De modo que queda usted frustrado en su empeno- y no hay nada más desagradable para un médico que quedar en un rincón sin salida. Las complicaciones cardiacas tambien son serias aunque no tanto como las complicaiones renales. Hay enfermos con corazones enormes y hasta con insuficiencia coronaria que responden bastante bien al tratamiento cuando la presión les baja y sobretodo cuando usted consigue detener el puso a la vez. En el campo de las complicaciones cerebrovasculares ya la situacion no es tan seria como en los otros dos. Aunque la patologia cerebrovascular en sí no es un a sena de mal prognóstico nosotros tenemos la con-

fianza de que cuando la presión baja los síntomas neuropatológicos van a mejorar mucho.

Todavia nos subscribimos a la creencia que un caso que manifiesta sintomas neuropatológicos es un caso urgente pero tambien estamos convencidísimos de que la urgencia no es tanta como en el caso de patología renal con uremia. La retinopatía por lo general se observa en casos de patología renal y cerebrovascular y en un tiempo creíamos que el enfermo en quien se observaba la papiledema, por ejemplo, era un caso casi perdido. Pero ya nuestro concepto ha cambiado en ese sentido. Todos sabemos de muchos, pero muchos casos que han vivido por más de cinco anos despues de descubrirseles la papiledema. La papiledema en sí es una mala sena y suando existe hay que tratar inmediatamente, pero cuando hay papiledema sin insuficiencia cardioca o renal y cuando no se observa nada de importancia en el sistema nervioso central la situacion no es tan alarmante hoy dia. Sabemos que las cosas van a deteriorar rapidamente si no se tratan pero usted las trata con vigor y con la esperanza de que van a mejorar.

Si el enfermo tiene mas de 50 años de edad hay dos formas de mirar el asunto. El enfermo ha llegado a los 50 años y probablemente la enfermedad esté bien establecida sobretodo si empezó cuando el paciente estaba en los treintas. No digo que la situación sea mala ni tampoco digo que es buena; pero si la presion es alta y el enfermo tiene mas de cincuenta años usted está más limitado en el tratamiento. El sistema vascular ye se he adaptado a la hipertensión y ya existe la enfermadad vascular orgánica y la reversibilidad del caso es menor. Ya usted no tiene que tratar con tanta urgencia pero debe hacerlo sin titubeos.

Los hombres por lo general no responden bien al tratamiento. Las mujeres, aunque tienen una incidencia de la enfermedad doble la de los hombres, responden mucho mejor y tienen mejor prognóstico. De manera que si usted esta tratando a un hombre, con historia familiar de hipertensión y sobretodo si es obeso, no anticipe buenos resutados en su empeño. El nivel de la presión diastólica es mucho mejor criterio que el nivel sistólico porque hay much gente de más de 50 años que tienen presiones sistólicas de más de 200 y diastólicas de 80 y 90 que casi nunca tienen complicaciones, tanto que en mi opinion los enfermos con presiones de esa naturaleza no son realmente hipertensos. Esto es mas bien arterioesclerosis con pulso de "marron hidráulico".

El prognóstico tampoco es bueno cuando la presion no cede con el descanso en cama, con o sin los calmantes. Si el enfermo tiene el pulso relativamente lento y sin fallo el prognostico no es tan favorable como el del enfermo que tiene el pulso acelerado aunque la presión alcance a unos 230 sobrel 120 y particularmente cuando el paciente es mujer. Por lo general yo consigo bajar la presión sobretodo cuando el pulso baja porque en estos casos la presion elevada no es mas que una sena de ansiedad y responden bien a los tranquilizantes juntos con algun agente vasodilatador. Las mujeres responden bien con cualquier tratamiento, después de todo son mujeres y, repito, las mujeras responden doblemente mejor que los hombres.

Vamos ahora a discutir como evaluar una drogo en cuanto a su efectividad en el tratamiento de la hipertensión. Esta pregunta es muy frecuente y muy difícil de contestar porque para evaluar debidamente cada una de estas drogas se necesita tiempo. La hipertensión es una enfermedad crónica. Se necesitan algunas semanas o meses de observacion para llegar a alguna conclusión más o menos justa. Lo primero que se debe hacer, a menos que sea una emergencia, es poner el enfermo bajo un placebo por espacio de 10 a 12 semanas. Luego se le da Rauwolfia por cinco o seis semanas y luego se controla eso con una dosis equitativa de fenobarbital como placebo. Después de eso substituya con reserpina.

Los derivados de la Rauwolfia no producen efectos rápidos. El pulso tiende a bajar con la Rauwolfia y subir con el fenobarbital. Esta evidencia se acumula muy lentamente y tienfe a indicar que la Rauwolfia es una droga de efecto hipotensivo pero muy benigno a menos que se administre por via parenteral. Quiero recalcar aqui que la reserpina administrada por la via parenteral es una droga muy potente en su efecto hipotensivo pero cuando se adminstra por la via oral es una droga de efecto lento, que produce bradicardia y congestión nasal y de efecto hipotensivo moderado. El enfermo puede acostumbrarse a tolerar la congestion nasal sobretodo en un clima como el de Arizona y con el uso de alguna droga de vasoconstriccion.

De vez en cuando algun enfermo se queja de pesadillas con el uso de la Rauwolfia. Ese efecto casi siempre se debe a un exceso de la droga. Otros enfermos se quejan de debilidad y sueño durante el dia. En estos casos lo mejor es suspender la droga por una semana y volver a empezar con la mitad de la dosis.

La mayoria de nuestros casos son complicados. Casi todos los casos han sido referidos por algún médico que no ha obtenido los resultados que él haya deseado. Por ejemplo, a menudo nos encontramos con un paciente hipertenso maligno con patología ocular de grado 4 a punto de un ataque convulsivo. En este caso es donde se indica la reserpina por la via intramuscular en una dosis de 2½ a 5 mgm. A la vez, si se necesita, se le da el enfermo alguna droga de efecto "bloqueador," comon hexametonium, en una dosis de 2½ a 5 mgm. por la via intravenosa. No olvide que el enfermo con encefalopatia es muy sensitivo al uso de estas drogas. Las drogas "bloqueadoras" ya no se usan tanto: preferimos el uso de la reserpina por via intramuscular y si el enfermo no puede tomar nada por via oral se le puede dar una dosis de clorotiazida por la via parenteral. Queremos bajar la presion sin périda de tiempo en el paciente con esta complicacion. Más tarde podemos administrar las drogas por la via oral y sostenerlos con la terapia oral crónica por un período indefinido.

Ahora quisiera entrar en la discusión de los agentes "bloqueadores" adrenérgicos. Las compañias Ciba y Burroughs Welcome tienen nuevas drogas de este tipo. La de Burroughs-Welcome se llama "Darenthin" y se usa en Inglaterra Aqui se esta usando hasta la fecha solo en el campo experimental. La droga de Ciba se llama "Ismelin" o guanetidina. Estes drogas son muy interesantes. Nosotros creemos que la Ismelina es de mas facil manejo, quizas porque la conocemos mejor. El margen de dosis es mas estrecho con la Ismelina que con la Darentina. En eso la darentina se parece a la hexametonio: puede variar 25 veces en un mismo enfermo. Por eso preferimos la ismelina pero la darentina tien de ventaja de que no irrita tanto el intestino. Ambas drogas son solamente simpatolíticas y por consiguiente ambas tienden a producir un exceso colinergico como la sialorrea. Ademas los enfermos se quejan do que la droga produce "diarrea," pero en la mayor parte de los casos todo lo que se produce es una evacuacion explosiva quizas una vez o a lo sumo dos veces diarias. Esto en si no es un problema y hasta cierto punto es una ventaja porque muchos de estos enfermos se fijan mucho en la condicion de sus intestinos y temen al estreñimiento. Por lo general los enfermos se adaptan a esa reacción con la Ismelina sin dificultad. En resumen, las drogas bloqueadoras son buenas y necesarias pero se deben usar solamente como un ultímo recurso porque tienen muchas desventajas, particularmente en su efecto de hipotensión postural. Sin embargo, cuando se trata de patologia renal avanzada las dos drogas son valiosísimas. Antes de descubrir estos dos medicamentos los urólogos hacían la nefrectomía cuando se consideraba que uno de los dos riñones era de poco uso al enfermo. Pero aun estos especialalistas solian decir: "No el extraiga usted un riñon al enfermo a menos que ese órgano sea totalmente inutil porque esa operación, desde el punto de vista de estadísticas, no beneficica mucho al paciente". Ademas la masa renal es a veces muy necesaria; de manera que la nefrectomia ya casi no se hace. En lugar de la nefrectomia se usa la ismelina hasta la fecha con resultados bastante satisfactorios.

Ahora respecto a los diureticos. En mi opinión no hay duda de que estas drogas, la clorotiazida, sus derivados y otras drogas de esa familia, nos han proporcionado una nueva y potente arma para combatir la hipertensión. Además de su efecto hipotensivo directo la clorotiazida y sus derivados refuerzan el efecto de otras drogas que se usan en el tratamiento de esta enfermedad. En particular el efecto reforzante es más pronunciado en el caso de de las "bloqueadoras." De modo que lo que nosotros hacemos en el tipo de casos a que me refería anteriormente es poner el enfermo primeramente con la clorotiazida y no con ismelina. Es cierto que por lo general no damos la clorotiazida sola, casi siempre la damos en combinación con otras drogas empezando primeramente con una de las más benignas como la reserpina. La reserpina es muy valiosa en aquellos casos con taquicardia por su efecto bradicárdico. Si la reserpina no trabaja entonces le damos apresolina u otra droga vasodilatadora de la circulación renal. Dicho sea de paso, las drogas nuevas se presentan cada día con rapidez asombrosa y cuando ya conoce uno alguna droga con sus puntos buenos y malos se presenta otra que muchas veces aventaja s su

antecesora. La apresolina por ejemplo, a pesar de ser una buena droga tiene, ente otras, la desventaja de producir dolor anginoso y taquicardia. Pero ya tenemos a nuestra disposición nuevas drogas sin las desventajas de la apreslina. Hasta la fecha lo mejor es preceder uso de la apresolina con la reserpina y el veratrum y al cabo de unas semanas dar la apresolina en dosis de 50 mgm. cuatro veces al dia y si aun con esta dosis se produce angina la suspendemos.

Muchas veces me preguntan si hacemos simpatectomías. El doctor Smithwick de nuestro hospital en 1948 estaba haciendo simpatectomías a razón de una diaria. Según se fueron descubriendo drogas hipotensivas nuevas el número de simpatectomías ha ido dismínuyendo al punto en que en el año pasado apenas se hicieron 10 y estas en el transcurso de algún procedimiento exploratorio en casos de hipertension severos en los que se sospechaba la existencia de algún tumor adrenal, patologia renal avanzada o alguna anomalía circulatoria del riñon. Cuando el doctor Smithwick, que es un experto en ese campo, no encontraba alguna causa orgánica optaba por hacer una esplanicectomía limitada ya que tenía el campo expuesto. La esplanicectomía limitada no hace daño y a menudo produce una baja permanente de la presión arterial. A veces los resultados son brillantes pero por lo general los resultados no son del todo satisfactorios. Yo no la recomiendo. Sin embargo, un fracaso en el en una esplanicectomia se puede fácilmente convertir en un exito rotundo mediante el uso de la clorotiazida en dosis pequeñas, digamos de unos 250 mgm. diarios. Algunos enfermos responden bien hasta con unos 62½ mgms. de la droga.

Con esta información básica vamos a hablar un poco sobre el modo de acción de estas drogas. No hay que engañarse: no tenemos drogas específicas cuando se trata de las drogas hipotensivas con la posible excepcion de la clorotiazida. Esta droga no baja la presión en personas con presión normal. Hasta donde yo sé esta es la unica medicina que tiene esa propiedad. Todas las demás bajan la presión en los normotensos como en los hipertensos; Cual es pués el mecanismo de acción de la clorotiazida? Mucha gente creía que esta droga trabajaba extrayendo la sal del cuerpo y reduciendo el volumen de sangre, pero esta teoria se ha comprobado que es un error. Ya casi todos estamos de acuerdo en que estas drogas surten otro efecto en los hipertensos y solo en los hipertensos. El mecanismo exacto se desconoce. La sal tiene algo que ver en el asunto pero no creemos que ese es el único mecanismo de acción de la droga.

Para tener éxito en el uso de las drogas hipotensivas me parece a mí que es indispensable que usted de veras crea que bajar la presión es de beneficio para el enfermo. Si usted no tiene esa filosofia básia me parece a mi que usted estara haciendo uso de las drogas innecesariamente. Sin embargo, yo creo que usted no puede usar estas drogas por mucho tiempo en un enfermo sin convencerse de que de veras lo está ayudando. El mismo enfermo muchas veces le clemará la atención a usted al hecho de que ya se siente mucho mejor. A mí me parece que lo que más los hace sentir mejor a ellos es que al bajar la presión el corazón trabaja menos y por consiguiente se sienten menos fatigados. Pero si a pesar de esto usted todavía no confia en las drogas no las use o úselas solamente con fines experimentales como para probar si de veras sirven para algo.

Una combinación de drogas es casi siempre más efectiva que una droga sola. Tenga flexibilidad en el uso de las medicinas. Si una droga o una combinacion de ellas no le da buen resultado cambiélas hasta que encuentre la droga o drogas que le surtan mejor efecto al caso particular.

Nunca piense que la hipertensión se cura. Bien sabemos que tan pronto como el paciente suspende sus medicinas la presión sube otra vez al nivel de antes de empezar el tratamiento y muchas veces hasta un nivel mas also. Cuando la presión sabe despues de un periodo de tratiemento siempre hay el raisgo de un posible acidente cerebrovascular, sobretodo cuando se han estado usando las drogas "bloqueadoras." De modo que siempre impresione en el enfermo la necesidad de tener las drogas a la mano dondequiera que estuvieren.

Una de las cosas que más me satisface en el tratamiento de esta enfermedad es el hecho de que una vez la presión ha bajado es mucho más facil mantenerla baja que rebajarla en un principio. La cantidad de la droga que se requiere diariamente disminuye en las mayoría de casos. Esto representa economía de dinero para el enfermo y a la vez les da ese efecto psicológico saludable que les causa el hecho de que no tienen que estar tomando tanta-

medicina como cuando empezaron a tratarse.

Otra cosa que hay que recordar es que el calor tiene un éfecto sinergístico con las drogas hipotensivas. Por eso durante el verano es bueno observarlos cuidadosamnete y reducir la dosis de acuerdo con la necesidad. Tambien es bueno advertirle al enfermo que se cuide de no pararse muy rapidamente en la tina cuando este tomando un baño caliente. Las drogas "bloqueadoras" son la más susceptibles en ese particular. Si el calor surte ese efecto reforzante el frio surte el efecto contario. De manera que en el otoño la dosis hay que aumentarla en muchos casos.

En el tratamiento con estas drogas hay que preseverar. Si usted va a desistir del uso de las medicinas en un plazo corto es mejor que ni siquiera comience a usarlas. Este es un problema que requiere tratamiento prolongado y es bueno hacerle saber esto al enfermo desde un princippio.

Ahora bien; A quienes va usted a brindarles el tratamiento? La respeuesta a esa pregunta es que el tratamiento se le debe ofrecer a todo aquel enfermo que en su opinión va a tener malos resultados a consecuencia de su enfermedad si no se trata; y esto presupone que usted conoce bien al enfermo. Cada enfermo con hipertensión es distinto. Cuando me preguntan; cual es el tratamiento preferido par a uno enfermo que tiene una presion de 190 sobre 114? mi respuesta es: todo depende. Depende del sexo, de la edad, de la duracioñ de lá enfermedad, de la historia de la familia, de la condición de los riñones, del curso de la enfermedad y de otros factores. Yo no puedo hacer una recomendación a base de la presión nada más. Por ejemplo una ancianita con una presión de 210 sobre 80 no requiere tratamiento, en mi opinión.

Hay que individualizar cada caso y hay que tomar tiempo, bastante tiempo para estudiar y evaluar debidamente el curso de la enfermedad. Usted de dará cuenta de que el enfermo tiende a proseguir más o menos el mismo curso en su enfermedad que ha seguido hasta el momento en que usted empieza a tratarlo. Hay que tratarlo sintomáticamente y con psicoterapia para reducir las irritaciones a que ese enfermo se somete diariamente. Naturalmente que yo recomiendo el uso de las drogas hipotensivas. Cuando usted empiece el tratamiento use una droga de efecto benigno primero estando siempre pendiente de los efectos acumulativos de droga para rebajar la dosis a un nivel efectivo pero libre de los efectos secundarios indeseables de la medicina. Si después de todo la reserpina no la da el resultado que usted desea no la suspenda, reténgala y anada otra al plan. Las combinacione son siempre mejores. Cualesquiera que sea su plan terapeutico no pierda de vista un principio basico: digale al enfermo pero con conviccion "Nosotros vamos a bajarle la presión a usted."

En conclusion yo quisiera platicarles de un caso que ilustra claramente todos estos puntos. A esta señora le hemos hecho todas la pruebas diagnosticas y terapeuticas con que contamos hoy dia. Es una mujer relativamente joven. En su ultimo embarzo sufrio una toxemia pero la hipertension no se manifestó en forma permanente com hasta los 44 años de edad, más o menos cuando entro en la menopausa. La presión era excesivamente alta; de unos 260 sobre 160. Cuando niña habia sufrido una fractura en la nariz y desde entonces habia consumido cantidades enormes de drogas vasoconstrictoras. No creo que esas drogas tuvieran nada que ver con su hipertensión, sin embargo. La internamos en el hospital y yo empecé a tratarla. Le dimos todas las drogas a nuestra disposición y la sometimos a todas las pruebas a nuestro alcance. Investigamos la posibilidad de la existencia de aldoesteronismo primario y naturalmente de patologia renal, pero todo fué en vano. Yo estaba convencido de que no se trataba de un caso de hipertensión esencial. Nuestra sospecha era tal que la sometimos a una laparotomia exploratoria en las manos de un experto como el doctor Smithwick. Despues de la exploración el doctor Smithwick, nos aseguró que no habia encontrado patologia renal ni adrenal en forma alguna, pero que optó por hacer una esplacicectomía.

Después de la operación la enferma continuaba siendo tan dificil de tratar como antes. Todavia no respondia a las combinaciones corrientes en dosis bastante fuertes. En ese tiempo estábamos experimentando con las drogas "bloqueadoras" y la pusimos a ella con estas drogas. Mientras tanto la señora empezó a quejarse de dolor en las pierans mas o menos típico de claudicacion intermitente, a pesar de su relativa juventud.

Al examinarla yo ni siquiera le encontraba los pulsos en los pies aunque sí tenia buen pulso femoral en un lado. Esto me hizo sospechar que esta señora por alguna razón tenía enfermaedad vasular, probablemente arterioesclerótica, y yo deduje que si tenia la enfermedad tan pronunciada en las piernas probablemente tambien la teniá en los riñones. Pero ya habiamos investigado la condición renal y el doctor Smithwick un año anterior habia hasta palpado los riñones. De todos modos le hicimos un pielograma y ya esta vez un riñon se viea anterior. Entonces la dimos ismelina, (aunque yo creo que la darentinas hubiera surtido el mismo efecto) en combinación con otras drogas. La señora ahora tiene la presión completamente normal. Todavia tiene sus dos riñones aunque uno no funciona tan bien como el otro y probablemente tiene pielonefritis. Su función renal total, sin embargo, se mantiene intacta.

Este caso ilustra la importancia de la perseverancia. Nuestra filosofia en el tratamiento de la hiptertensión ha cambiado radicalmente con el adventimiento de las nuevas drogas. Hace unos años que nos colmábamos de gloria y satisfacción cuando le damabos alivio a un desventurado que sufria de hipertensión severa. Hoy dia el caso que resalta no es el que responde favorablemente al tratamiento sino más bien el que no responde, pero con la perseverancia en la investigacion para el diagnostico aun el caso mas recalcitrante responderá bien la tratamiento si sabemos la causa de la hipertensión. Tambien hay casos que de un momento a otro, despues de dos o tres años de tratamiento, mejoran notablemente sin que se les cambie ni en un tilde el plan terapéutico. En fin: nunca se da usted por vencido cuando del tratamiento de la hipertensión se trata.

En resumen, el tratamiento de la hipertensión es en fin de cuentas una batalla entre el medico y las fuerazas homeoestáticas del organismo que tienden a mantener un nivel de presión arterial alto a pesar de los cambios a que se someta el enfermo con medicamentos u otros procedimientos terapeuticos. Este mecanismo trabaja tambien afortunadamente cuando la presión se ha estabilizado en un nivel más bajo por cualquier razón o razones y la presión tiende a mantenerse baja aun sin el uso de medicinas por varios meses. Sin embargo, nunca debemos decaer en nuestra vigilia porque si nos descuidamos la tendencia hereditaria o familial del paciente vuelve a imponerse y la presión no tardará en subir otra zez a su nivel original o quizás hasta un nivel mas alto. Nunca pare el tratamiento por completo: reduzca la dosis si lo cree prudente pero no elimine las drogas por completo. Ahorita mismo tengo yo un caso de un jovencito de apenas 18 años de edad a quien mantengo constantemente con una dosis minima de reserpina, unos 0.05 mgms. diarios. Para experimentar yo le he dado a este muchacho placebos por espacio de unos seis meses y aunque él dice que se siente bien la presión le va subiendo paulatinamente y cuando viene usted a ver ya la presión anda por los 160. De modo que una dosis aunque sea mínima de una droga contarestante de esta tendencia hereditaria es indispensable en el tratamiento de esta enfermedad que en mi opinión no deja de ser una enfermedad mala.

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Indications for Office Gynecological Procedures of a Surgical Nature*

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The office treatment of cervical erosions with cauterization, the investigation of the patient having Class III smears, the use of Schiller's solution, cervical biopsy and hospital conization of the cervix are discussed. Vulvar lesions of a surgical nature are mentioned and office treatment under local anethesia is described. (RRL)

THERE are many indications for outpatient surgical procedures for gyneecologic patients but time will not permit an adequate discussion of all of them. Therefore, I have ehosen to discuss some of the more eommon lesions of the cervix and of the vulva.

Cervical Lesions: One of the commonest gynecologie lesions is the so-called erosion of the cervix. Some of these erosions show the presence of carcinoma when they are biopsied. It is rather generally accepted that erosions should be treated in order to prevent the future development of carcinoma of the cervix. Therefore, the management of these reddened areas on the cervix is a major problem for all of us, both beeause of their frequency and because of their potentially serious nature.

There are eertain gross characteristics of these lesions which suggest the presence of malignancy. A lesion whieh has a granular surface, which bleeds easily on wiping with cotton, and is a raised lesion with rolled edges, is more likely to be malignant than benign. Pressure on the center of such a lesion will depress the entire lesion as a solid button of tissue, rather than dimpling the center of the lesion, if the lesion is hard and therefore more likely malignant.

It has been amply proven, however, that one cannot rely on the gross eharacteristics to determine whether or not a cervical lesion is malignant. With the widespread use of vaginal smears for cytologic examination it has been repeatedly demonstrated that carcinoma may exist in a cervix without producing any observable changes whatsoever on gross examination. Even after having the information that a patient has positive vaginal smears and returning to inspect the cervix carefully we have been unable to detect any gross changes whatsoever, even where careinoma was later proven to be present. Therefore, it is eminently clear that in order to be certain of the nature of any lesion observed on the eervix, it is absolutely necessary to obtain a biopsy.

For biopsy of the cervix we have employed

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either a Thoms-Gaylor biopsy punch or a Schubert biopsy punch. Both have their staunch advocates and I find little to choose between them. Whichever will effectively grasp the area of the cervix desired is the best instrument to use. If biopsy is difficult, a single tooth tenaculum placed in the anterior lip of the cervix will frequently help in steadying the cervix and providing some counter pressure against which the biopsy can be made. The most important thing about a biopsy instrument is to keep it sharp and this can be done most effectively, I believe, by soaking it in an antiseptic solution for sterilization and preventing well-meaning nurses from autoclaving such instruments. We always obtain vaginal smears at the time that the biopsy is made and the pathologists are quite happy to have this additional material to review. Since the vaginal smears are generally 90-95 per cent accurate in detecting carcinoma of the cervix negative smears are of considerable reassurance before proceeding with the treatment of the erosion.

If biopsies of the erosion and vaginal smears are both negative we proceed with cauterization of the cervix. This is done with a simple National Cautery set with a pistol grip handle. The cauterizing wire is heated to a cherry-red color and ordinarily the erosion is stroked in a radial manner from the external os of the cervix out on to the portio. The cervix is cauterized to a depth of only 1 or 2 mm. We make an attempt to keep from going too far up into the cervical canal and would prefer to do the cauterization in several sittings rather than running a risk of cervical stricture by cauterizing too deeply or too extensively at the first visit. If the lesion is an extensive one we employ the broad cautery tip and "frost" the entire surface of the erosion with the cautery.

The patient who has suspicious or positive vaginal smears without any visible gross lesion poses a special problem. Here, the Schiller Test is of some help. In employing Schiller's solution it is important to remember that it must be used quite liberally so that all areas of normal epithelium will be adequately stained with the solution. For this reason it is helpful to pour a small amount of the solution into the vagina so that the cervix will be very thoroughly coated with it. Then any areas which do not stain can be easily identified and biopsied.

In interpreting suspicious vaginal smears, one must be familiar with the feelings and results in the laboratory where his smears are being read. In our own laboratory a Class III or suspicious vaginal smear means that the patient has a 50-50 chance of having a carcinoma. That is, when all of the patients with this type of smear have been thoroughly investigated we find that about half of them have a carcinoma of the cervix and about half have some atypical changes in the epithelium of the cervix, but not of a malignant nature. If a Class III smear is obtained from a patient then repeated smears should be obtained at intervals of two weeks. If no further suspicious smears are obtained she may be followed as any other gynecologic patient. If, on the other hand, repeated smears are of a suspicious nature, the cervix should be biopsied if any lesion is present either grossly or at the time of a Schiller Test. If no such area can be located then the patient should be admitted to the hospital for a conization of the cervix.

Patients with repeated suspicious or positive vaginal smears who have no gross lesion of the cervix and patients whose biopsies show carcinoma in situ should have an adequate conization of the cervix in the hospital. This cone should completely excise the squamo-columnar junction around the entire circumference of the cervix and should extend a reasonable distance on either side of this border. Therefore, an adequate cone will have a base which is 2 cm in diameter and an altitude of 2 cm. The value of such a cone depends completely upon the manner in which the pathologic examination of the tissue is conducted. If it is adequately studied by an interested pathologist it will give us a very adequate idea of the extent of any changes in the cervical epithelium.

In pregnancy some reddening and irregularity of the cervix is so common that we rely on the smears to exclude the presence of malignancy. We do obtain vaginal smears on all of our prenatal patients and act upon the results in exactly the same manner as outlined above in the case of non-pregnant patients. If there are any suspicious gross lesions or if repeated suspicious smears are obtained we do not hesitate to biopsy the cervix during pregnancy or to perform a conization of the cervix during pregnancy.

Endocervicitis characterized by a profuse purulent discharge from the cervival canal may

be a source of difficulty to a patient either because of resultant infertility or just because of the presence of the discharge. In our hands, this has been treated by radial cauterization of the cervix. It is frequently necessary to go a bit higher into the endocervical canal than is the case with the cauterization of erosions. It is frequently necessary also to cauterize the cervix a bit more deeply in order to cauterize the glands which are responsible for the discharge. Here again, it is probably wise to perform this cauterization on repeated visits, cauterizing only one side of the endocervical canal at a time. We have found this method to be satisfactory and have not resorted to conization of the cervix with the cautery. Neither have we employed surgical conization of the cervix for this lesion but have found repeated cauterization on an outpatient basis to be ultimately satisfactory.

Vulvar Lesions: Pruritis of the vulva is such a common symptom that its treatment is frequently relegated to a telephone suggestion to take vinegar douches. We must remember, of course, that this may be a symptom of a serious lesion such as a carcinoma of the vulva and must be careful to examine all such patients very carefully before suggesting any treatment.

Many lesions of the vulva can be removed in toto under local anesthesia on an outpatient basis. Simple local infiltration in the subcutaneous area with 1 per cent Xylocaine solution provides good anestheisa for such procedures. It is important to remove all such lesions with a sufficiently wide border of normal skin around them to be certain that the lesion has been completely removed. This means that a minimum of 1 cm. of normal skin should be removed along with the lesion on all sides.

If a lesion is so large that removal on an outpatient basis is not easily possible it is best to admit such a patient to the hospital for an excisional biopsy under general anesthesia. It is unwise to perform an *incisional* biopsy on a vulvar lesion which may be malignant.

Lesions of the vulva which are most apt to be malignant are those which are raised into a fungating mass. The surface is cobbled in appearance and may bleed easily. These lesions are frequently infected so that the surface is covered with a purulent exudate. Melanotic lesions of the vulva are also highly suspicious.

A common lesion of the vulva which is easily treated on an outpatient basis is a Bartholin cyst. When such cysts produce recurring symptoms they are best excised or marsupialized. Excision requires hospitalization and has been attended by occasional complications in the form of subcutaneous hemotomata and, therefore, marsupialization is gaining increasing popularity.

Anesthesia is adequately established by local infiltration in the subcutaneous area along the line of proposed incision of the Bartholin cyst with 1 per cent Xylocaine. A pudendal block on the same side of the pelvis is also very helpful.

The cyst should be incised along the inner surface of the labium minus. It is incised along the entire length of the cyst. Two distinct layers will be easily visualized. The inner layer is the epithelium of the Bartholin gland duct and the outer layer is the vulvar skin. These two layers are approximated with a series of interrupted sutures. Gastrointestinal suture of 0000 chromic is quite satisfactory. These sutures result in some eversion of the mucosa of the duct and form a new ostium for the gland.

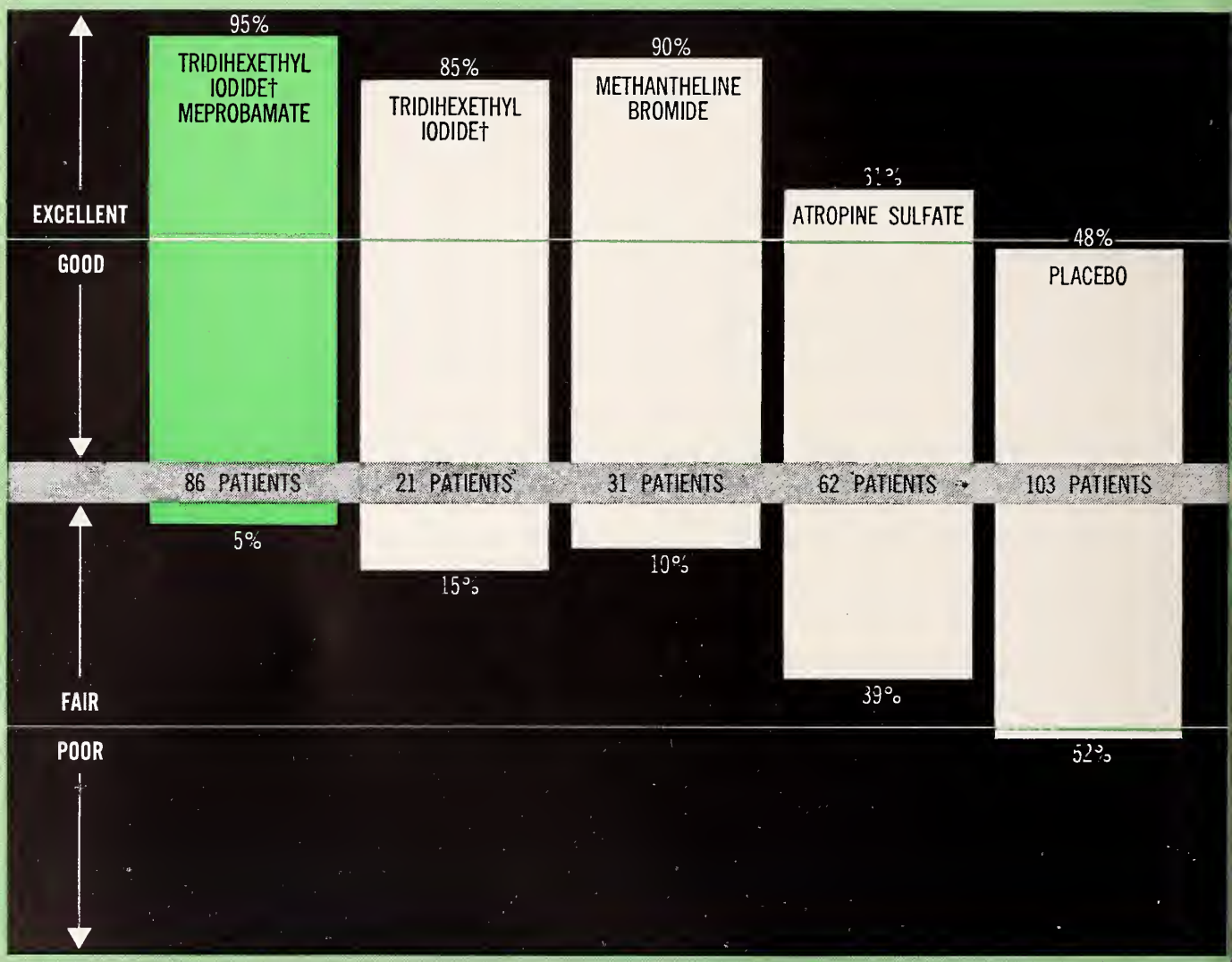
We have had no difficulties with bleeding or other complications and are very well satisfied with the procedure. Occasionally we have noted that if the ostium is placed out on the surface of the vulva or if the ostium is too small the patient continues to have a purulent discharge from the area. If these two faults are avoided, however, the cyst remains colapsed and the patient remains asymptomatic.

Summary: I have discussed some of the more common lesions of the cervix and vulva and the surgical procedures which may be performed on an outpatient basis to treat them.

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VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND MILDER	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. Am. J. Digest. Dis. 4:1055 (Dec.) 1959.

†PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.

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The Role of Civil Defense In National Strategy*

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This article gives a resume and understanding of the civil defense problem as it has not been presented before by either the military or the Office of Civil and Defense Mobilization. This is written in understadable terms with a reasonable solution at a reasonable cost and shows that this is not an insurmountable problem but that one can take a practical and not a fatalistic outlook upon the impending attack that may very likely come from either Russia or, in time, Red China. (DWN)

THE MAJOR reasons for maintaining a civil defense program are: to deter aggression, to protect population, and to ensure postattack recovery. I want to discuss in some detail now how these roles of civil defense can be carried out in our nuclear age.

The deterrent role of civil defense is the one most relevant to circumstances facing us today. How can civil defense support our present military strategy of deterrence, which rests upon the threat of massive counterattack? General Pierre Gallois has suggested that a policy of deterrence, to be credible, must be backed simultaneously by three conditions: adequate material forces, values clearly worth defending, and national will. It is in connection with this third aspect of deterrence that civil defense has an essential role to play; for national will can be fortified by the knowledge that attack can be survived, that postattack recovery can take place.

But the deterrent effectiveness of civil defense depends fundamentally, of course, upon the ability of civil defense programs to fulfill significantly their second function — that of protecting population. We will not inspire our own people with the will to resist nor will we discourage an enemy from attacking us if we really cannot guarantee that a major portion of our population and our resources can survive the effects of nuclear attack. What are the requirements for nonmilitary defense of our population?

The first need is for protection from fallout. In many areas, existing structures are so constructed as to provide adequate fallout protection. While fallout intensity is difficult to predict at any place, a shelter that would reduce exposure to radioactivity by a factor of 250 would be satisfactory for the fallout levels we would be likely to have in most areas after even the most comprehensive attack. Because of the nature of the postattack environment and the short length of the actual shelter confinement period (a maximum of several weeks), only a

*Presented before the Ninth U. S. Civil Defense Council Conference, Medical-Health Section, September 21-22, 1960, Minneapolis, Minnesota.

very small reduction in the total effective biological dose of radiation is gained by increasing the protection factor even as high as 1,000. Fallout shelter would be required after any expected type of attack with the exception of air bursts over point targets, which are considered an unlikely tactic against the United States. Calculations for many possible attacks show that in the United States over half the population lives in areas where people would survive if they had fallout shelter but could die without it.

Fallout is not the only hazard. The immediate weapon effects — heat, fire, the force of the blast, and radiation from the fireball itself — are the principal dangers in areas near the ground zero. Blast shelter can reduce up to 200 times the area in which blast effects of one weapon would be fatal. Studies of many possible attacks on the United States indicate that a program providing good blast shelters in urban areas plus fallout shelters elsewhere could hold total casualties to 10 percent of the population.

Such conclusions are based upon a careful appraisal of all the factors that make up the potential threat. This threat analysis involves a number of steps. First, the type and number of nuclear weapons available to the enemy are estimated. We then appraise the destructive power, reliability, and aiming error of those weapons, and assess the capability of U. S. air defense to cope with them. Targeting studies of the entire United States are prepared, based on the estimates of enemy capabilities and of U. S. defense capabilities and on the geographical distribution of U. S. military installations, critical industry, and population.

A wide range of possible attacks is considered, including assaults on one or more of the following: retaliatory military bases, all military installations including retaliatory bases, critical industries, industry in general, and population. Attacks using manned bombers or submarines instead of or in addition to missiles are also examined. For each attack, we assume the enemy to be seeking maximum results per weapon expended, and we therefore assign bombs to targets across the country on a net-gain basis.

The framework for this allocation is the National Damage Assessment System, a set of weapon and resource data and electronic computation procedures devised by Stanford Research Institute for measuring the results of a nuclear attack upon the United States. Although designed to provide a rapid estimate of surviving population and resources following an actual assault, the Damage Assessment System is equally valuable for targeting purposes, since it enables an analyst to predict the losses that would be incurred from the detonation of a given weapon at any spot in the United States under a variety of conditions, such as height of burst, direction of wind, and time of day. Having estimated attack losses under a no-shelter condition, we may then test the effectiveness of various types of shelter programs in reducing population losses under various types of attack.

Could the nation bear the cost of any civil defense program that could contribute a significant saving in lives? Studies at Stanford Research Institute have indicated that effective shelter systems can be designed for costs that are small in comparison with our present total defense budget. The fact can be illustrated by three nonmilitary defense programs that represent the range between the lower and upper limits of complete programs for protection. The minimum program involves maximum use of existing facilities for fallout shelter, the intermediate program involves construction of special fallout shelters by the government, and the maximum program involves construction of special blast shelters in metropolitan areas and fallout shelters in nonmetropolitan areas.

Shelter is the central feature of all three programs because it saves lives directly. Evacuation can also save lives, but it is effective only with sufficient warning and does not eliminate the need for fallout shelter. One-third to one-half of the cost of each program is in shelter; the remainder is for warning, decontamination, monitoring, stockpiling of food, and so on.

The minimum program requires the public to make maximum use of existing fallout shelter resources, to improve them where necessary, and to provide itself with survival supplies. This would involve an average initial investment per family of about $100. In addition, the government would have to act to make the individual's investment effective. The government would have to provide adequate warning, survey and mark existing shelter in large buildings, provide

for monitoring of radiation hazard, inform the public, and so on. The cost of these activities to government would be about one-half billion dollars or, if the program were completed in two years, about $1.50 per person per year. This contrasts with $230 per person for the present U. S. military budget.

Such a minimal civil defense program could save many potential victims of fallout, but it would not protect persons exposed to the impact of blast within a few miles of the ground zero. Furthermore, existing facilities that offer enough shielding to be useful in such a fallout shelter program could serve only about 25 percent of our population. This kind of protection would save enough people to ensure national recovery only in the case of an attack upon our retalitory military bases, since in these locations population densities (and therefore blast casualties) would be relatively light. Of about 40 million persons who would be victims of such an attack, about 20 to 30 million people who would otherwise be victims of fallout could be saved by this minimum program. The program would not save enough lives for national recovery from attacks directed against major population centers, however, and it would probably not be effective against the weaponry in use after the next few years. Thus, while the minimum program offers a significant saving of lives under some circumstances and is feasible for individuals in some localities, it could not be considered adequate as a permanent national policy.

The intermediate program involves government construction of special fallout shelters and provisions of emergency supplies for them, in addition to warning, monitoring, and the like provided under the minimum program. Unlike the minimum plan, this program would assure fallout protection for *all* the population under any attack at least through the 1960's and would avoid any danger of individual misjudgment as to the adequacy of improvised shelters. A national fallout shelter program is particularly appropriate for the United States because about half the U. S. population is in rural centers too small for direct targeting under any enemy objective and therefore faces fallout but not blast hazard. For these reasons the intermediate program could add 60 to 90 million survivors to the number who would survive with no program. Though the intermediate program could not save the millions of blast casualties who would be victims of an attack against major population centers, it *could* assure the survival of at least half the U. S. population. The cost, if the program were completed in six years, would be about $5 billion per year, or about $30 per person per year.

The maximum program would provide shelter against immediate blast effects in metropolitan areas plus fallout shelter elsewhere. A question often raised about such a program is whether, in case of attack, enough warning time would be available for people to reach blast shelters. By the time a blast shelter program could be implemented, the answer could probably be affirmative for most areas. The reason for this is that it is extremely important to an enemy to achieve simultaneity in any attack upon retaliatory bases in order to preclude a return attack upon himself. During the several years it would take for a blast shelter program to be implemented, there would be a continuing increase in the numbers of retaliatory bases situated throughout the Free World; the larger the number of these targets, the more difficult it would be to strike them simultaneously. It is therefore unlikely that an enemy could afford to include population and industry targets as well in his first strike. Thus the fall of weapons on retaliatory bases would occur before fall of weapons on civil targets and could provide warning in time for the population to reach blast shelters before the second strike.

If the maximum blast and fallout shelter program were to be completed in eight years, it would cost about $5 billion per year for the blast shelter portion of the program, but the fallout shelter portion would cost less than under the intermediate plan because the metropolitan blast shelters would also offer fallout protection. The total cost over eight years would be about $55 per person per year, and ths maximum program would assure survival of about 90 percent of our population under even the most comprehensive type of atttack in the late 1960's time period.

To say that an adequate program of fallout and blast shelter can assure survival is not to say that a postattack radioactive environment would take no toll at all. However, the toll can be minimized and, even in the worst case, would

equal a setback of a few decades in medical history: the proportion of stillborn and deformed children would be about what it was 30 years ago — 5 in every 100 births, according to the most pessimistic of the reliable sources, rather than 4 in every 100 as today. Individuals who have received close to sickness dosages of radiation might die 10 to 15 years earlier than they normally would, but their life expectancy would still be as long as our grandfathers' and longer than that of most other peoples in the world today. Even this outcome would not be inevitable. Since radiation-produced disabilities like leukemia and bone cancer take longer to develop than the normal life expectancy of people over 35 or 40 years of age, people in this age group would have less to fear from exposure to radiation than would younger persons. Thus if postattack responsibilities were so arranged that those over 35 or 40 performed the cleanup and other hazardous work, sharing the load so that no one person would get disproportionate exposure, it is entirely possible that the radioactive postattack environment would have very little deleterious influence on the average life span.

So much for the major medical considerations. What would the postattack social environment be like? Should we expect a desperate, hysterical fight for the surviving resources? On the contrary, the experience of the Red Cross and other disaster organizations is that people under stress of war, natural holocaust, and similar situations do act constructively and in the common interest; they do not act hysterically, except in a very few cases. In fact, the occasional hysterical reaction encountered is one of immobility rather than of hyperactivity: an insistence upon staying with remaining possessions rather than actively setting the world to order again.

The postattack economic situation would not give cause for panic, in any case. This statement can be made as a result of work done in connection with the third role of civil defense — that of ensuring recovery. This role involves both a research and a planning aspect. We must examine the vulnerability to attack of each component of the economic system, investigate the effect upon each component of the loss of various other components, and plan for stockpiling or other means of compensating the deficiencies that would exist. At Stanford Research Institute we have been conducting studies along these lines for a number of years, and our findings are, in general, encouraging.

You may wonder whether we would not at some point actually aggravate rather than ease postattack conditions by arranging protection from attack effects for our citizens — whether at some point a greater number of survivors would not place an excessive demand upon the remaining resources. It may be useful, therefore, to consider the situation that would arise from a maximum enemy attack — one directed against both our military and our urban centers — if we were protected by a complete fallout and blast shelter program. As mentioned earlier, such a program could save up to 90 percent of our population.

Even a maximum enemy attack would leave these survivors enough food, fuel, water, and shelter to meet their basic needs for some time. Stockpiled farm surpluses alone could feed the surviving population for at least two years. In addition, at least 30 percent of our cropland would be sufficiently radiation-free to produce foods safe for human consumption; this amount of land is enough to meet our food requirements under any shelter program. Enough farm machinery would be available to meet the need for 10 to 15 years after an attack. Most counties have an underground water supply that would remain free of radioactive contamination for an extended period. Even the amount of strontium-90 that would reach this water through percolation would not be serious. Surviving petroleum fuel stocks and petroleum production capacity would be sufficient to meet essential recovery requirements, including agricultural production, for two postattack years. And the number of dwelling units remaining after the attack would still provide more housing per person than exists in any other nation of the world today.

Power and transportation would also be available. Electric power and generating plants should withstand attack better than their consumers, and they are generally close to the demand. These plants normally have on hand fuel for several months' operation; with operations curtailed to supply a reduced load, these stocks should last many months. Enough transportation equipment would survive to last many years.

For movement of essential commodities, air transport could be back in operation immediately, railroads could be running within at least two weeks, and trucks could operate in all local areas within six months after an attack.

The finding that railroads could be in operation within two weeks after any attack is a rather recent outcome of our studies at the Instiute, and it is important for at least two reasons. Firs, it makes unnecessary an expensive preattack allocation of food stocks and other essential resources (unless such a predistribution seems advisable as a precaution against regional hoarding). Second, and more important, by assuring a continuing flow of goods across the nation and therefore the continuing need for central regulatory bodies, it suggests that there would be no lapse in the functioning and authority of central government. We need not visualize our country broken up into increasingly self-sufficient little islands of survival reluctant later to relinquish their authority and mistrustful of the general interest. The nation will be stronger for being able to remain so intact.

I have said that even the maximum number of people we could save by a shelter program would have available to them in the immediate postattack period more than a minimum of the basic essentials for survival and recovery. Clearly, the fewer survivors from a given attack, the more supplies and facilities for each person surviving. But even with a maximum number of survivors, the essential needs of the surviving population could never place such a burden upon surviving resources that recovery would be impossible. On the contrary, the greater the number of people who survived attack, the more labor force, technical know-how, and managerial skill we would be able to apply to postattack problems and the faster recovery would be able to take place. About a fourth of the nation's industrial plant, in addition to the agricultural resources I have already mentioned, would survive even the heaviest enemy attack upon our country. Maximum use of this recovery potential would require the maximum number of people that could be saved by a shelter program.

The postattack environment would not be pointless. But the postattack environment would certainly raise many problems it is important to anticipate. We can anticipate some of them by having an adequate shelter program — either the medium or the maximum program I have discussed, so that the larger portion of our population would be saved from even the heaviest attack an enemy might launch. We can anticipate other postattack problems with a continuing program of research and planning for the recovery period. And one of the strongest reasons for taking both actions is that the readier we are to receive attack, the less likely the attack is to occur.

If our studies at the Institute have convinced us of the strategic importance of civil defense and of the high degree of effectiveness oftainable from certain civil defense measures, what have we done about survival planning for ourselves? The question is appropriate since the U. S. government currently supports a "do it yourself" program of civil defense.

The Stanford Research Institute civil defense program consists of three plans for survival: SRI basement shelter, evacuation, and home shelter. The program is designed to save the lives of families as well as employees and is fully integrated with local, state, and federal civil defense arrangements. In line with national policy, it endeavors to exploit the defense potential of available structures and equipment.

The first step in preparing the plan was to make a detailed analysis of the effects upon our Menlo Park headquarters and the surrounding San Francisco Bay area of a wide range of possible attacks, in the manner I described earlier. We then computed and plotted on local maps the probabilities of blast destruction and intensive fallout for the entire range of assaults.

The next step in preparing the program was to locate on a map the offices of the Institute and the homes of our 1,500 employees. Although this map showed a fairly heavy concentration of families within two or three miles of the Institute, it also showed that some employees lived as much as 40 miles from our offices. This map was then examined in conjunction with the threat maps and other attack data to determine the probable effects of nuclear attack upon SRI staff members and their families, if the assault caught them at home with no warning.

When combined with the map of home loca-

tions, the threat analysis clearly indicated that SRI families would need protection, no matter what kind of nuclear attack the enemy might launch. For example, a heavy assault that included bombing of the naval air station at nearby Moffett Field would cause severe blast damage to an area in which many staff members live: 23 percent of our employees could die from immediate or subsequent effects of an attack upon this particular target. Virtually all of those who survived the blast effects would be killed by fallout unless they took the necessary steps to protect themselves. In fact, even the lightest assault on the San Francisco Bay area would almost certainly produce a lethal rain of fallout over our area within about half an hour.

Our next step, then, was to investigate available means for meeting the fallout and blast hazard. With respect to fallout, we knew that a wood frame house could protect its occupants from about 50 percent of outside radiation, and that a home basement could cut the intensity to about 5 percent. But neither of these degrees of protection would be likely to suffice for conditions expected in our area. The basement of the main Stanford Research Institute building, however, was found to offer adequate fallout protection from the heaviest possible attack. Since it takes about half an hour after surface detonation of a weapon for a dangerous level of fallout to accumulate on the ground, a great number of SRI employees and their families who survived the explosion at home would be able to reach the Institute in time to avoid dangerous contamination.

Besides offering fallout protection for any attack likely in the San Francisco Bay area, the Institute basement will also provide five pounds per square inch blast protection. This would be adequate in the event of an attack on Moffett Field, which is more than five miles away from the Institute. Preattack warning would be necessary for utilization of the basement as a blast shelter, but intelligence estimates indicate the possibility of some notice in the Menlo Park vinicity, at least until the mid-1960's. In certain circumstances, therefore, the basement shelter could reduce the number of fatalities from blast as well as from fallout.

For staff members who live too far from the Institute to reach it within a half hour, we investigated the feasibility of two other courses of action: evacuation and home shelter. We found that those employees who live on the periphery of our population basin would have time to evacuate to an area of less fallout hazard, such as the Monterey Peninsula (the prevailing winds on the Peninsula move from west to east). The remainder of our staff members, it appeared, would be well advised to have previously prepared home shelter. One blast and fallout shelter we designed at Stanford Research Institute would cost about $375 to construct for a family of six; other shelters would be more expensive. With sufficient warning time, both the evacuation and the home shelter plans could prevent blast as well as fallout casualties by permitting people to put distance or mass between themselves and the explosion.

Before details of the three survival plans could be presented to staff members and their families, it remained for us to carry out the necessary arrangements and alterations that would make our Institute basement operational as a fallout and blast shelter. We did have built-in shielding from outside radiation. The basement floor is an average of 15 feet below grade and is shielded by the surrounding earth from radiation on the ground. In addition, protection from fallout on the building roof is provided by 40 feet of distance between the roof and basement floor, and a total of 13 inches of concrete in the roof and two floors above the basement. This shielding would reduce radiation to 1/250 the outside levels, an adequate reduction for any fallout conditions we can anticipate for the next several years. But to prevent leakage of radiation, removable four-inch thick concrete slabs on concrete block supports had to be placed above all exterior ventilation and service wells opening onto the basement. Connections and hoses were also installed where necessary to permit the slabs and surrounding ground to be washed free of fallout following an attack. The total cost for these improvements was about $300. The depth and strength of the Institute basement also offer adequate protection from blast effects of any attack on local targets, with the unlikely exception of direct attack on Palo Alto or Menlo Park.

Space was the next consideration. Allowing 10 square feet per person, our basement could provide shelter for a maximum of 3,000 people, or roughly two-thirds of the staff members at

our Menlo Park offices and their families. The remainder of our staff and their families could be accommodated in the basement of an adjoining Institute building, which is currently under construction. Incidentally, inclusion of a basement in the plans for this new building was found to be a sound move quite apart from civil defense considerations and despite the local building convention against underground construction: basement office and storage space proved more economical than comparable space above ground.

Food for the shelter occupants did not pose as great a problem as you might expect. We were able to obtain a ten-day supply of the minimum diet dry ration, Multipurpose Food*, at a cost of three cents per meal per person, or $2,700 for the 3,000 persons who could be sheltered in our present basement. Although this product is now distributed at a slightly higher cost, it is still an extremely economical and satisfactory answer to the shelter food problem. In many cases the availability of such a low-cost, compact ration would be the critical factor making possible a shelter program for a large staff. In order to make shelter life more comfortable, our staff members were invited to store in the basement a footlocker of supplemental food and other supplies, including bedding.

To insure a supply of radiation-free water during the period of confinement, a well was drilled next to the basement at a cost of $2,300. Although there is little danger in our particular area of losing the municipal water system in an attack, water is much more a necessity of life than is food, and the installation of this well was therefore considered essential to the program. Actually, the well can pay for itself over a 12-year period by providing low-cost water for irrigating the grounds of the Institute.

Communication facilities were another necessity of the basement shelter program. First, we needed some means of conveying warning to our staff. Stanford Research Institute is tied into the civil defense warning net and will receive an attack warning at the same time as the local fire station. However, since a siren warning might be misunderstood by many listeners, we decided to communicate the alert to our staff over a special high-volume loudspeaker developed at the Institute.

In addition to the warning facilities, we needed short-wave apparatus for sending and receiving information about attack damage and fallout conditions. This information would enable us to determine for ourselves as well as for others in the community what would be the most suitable post-shelter course of action: decontamination of our own area or evacuation to some less contaminated area. CONELRAD, of course, is expected to perform this function under present civil defense plans, but CONELRAD facilities so far are not provided with protection to assure the survival of their broadcasters. Short-wave equipment at Stanford Research Institute could also be used in conjunction with our electronic computer systems to assist the government with inventory of postattack resources and with recovery planning.

Short-wave transceivers were already on hand at the Institute to form the core of a basement communications center, and arrangements were made for emergency communication with local police and sheriffs' offices, military headquarters, the Military Amateur Radio System, civil defense offices, and the Red Cross. To provide power for communication, as well as for the water pump, lighting, ventilation, and sewage disposal, we purchased at a total cost of about $5,000 a motor generator and a 1,000-gallon diesel storage tank to hold two weeks' fuel supply. Interestingly enough, we found that the generator would soon pay for itself by providing standby power during ordinary lapses in the commercial power supplied to the Institute.

A few other aspects of our basement shelter program are worth mentioning briefly in order to round out your picture of the plan. In order that medical services might be available, a number of local doctors and their families were invited to participate in the basement shelter plan. Emergency medical supplies were stored in the basement and the Institute's medical office will be moved to the basement area. Sanitation requirements involved no extra investment: toilets in the basement were part of the original construction plan, and water and power for their operation can be supplied by the emergency well and motor generator. Provision for monitoring radiation also did not add any cost to the plan,

*Available from General Mills, Inc. (Sperry Operations), in Oakland, California, and other cities across the country.

since monitoring instruments and trained personnel were already available within the Institute. Equipment suitable for decontamination of the surrounding area was in daily use by the Institute's maintenance department, but showers and other facilities for personal decontamination were set up in the basement so that radioactive particles that became attached to the skin, hair, and clothing of entering occupants might be removed. Arrangements for information and control, plant shutdown, fire protection, safeguarding of records, and community assistance were also included in the planning.

Finally, details of the three survival plans — SRI basement shelter, evacuation, and home shelter — were presented to staff members and their families in a brochure entitled *LIVE: Three Plans for Survival in a Nuclear Attack.*

This booklet provided background on the threat, described the rationale and functioning of each plan, and listed supplies and food that would be needed by those who chose evacuation or home shelter. Sections on sanitation, first aid, decontamination, and shelter were also included. Each staff member then had accurate information upon which to base his selection of a survival plan.

This informational phase of the planning cannot be overemphasized. Much of the popular feeling of skepticism toward civil defense is the result, I believe, of a failure to obtain complete information. Lacking all the facts, many people have considered the building of fallout and blast shelter to be a neurotic rather than a rational act. In this atmosphere, other persons who did have sufficient information to realize the wisdom of family or organizational civil defense planning were nevertheless a little hesitant to act upon their convictions.

Our *LIVE* brochure not only presented the facts to the uninformed, it also presented an encouraging precedent to those who *were* informed. Stanford Research Institute, with the benefit of its years of investigation into both military and nonmilitary defense problems, evidently believed that fallout and blast shelter programs of modest costs were both feasible and timely. Once our *LIVE* brochure was in circulation and the Institute's basement shelter plan had been reported in the local press, we began to receive many inquiries from individuals and firms anxious to initiate their own shelter programs. These inquiries continue to come to us from all over the country and even from some foreign countries. In response to this interest, we have exhausted two printings, totaling 10,000 copies, of our *LIVE* brochure, and the Office of Civil and Defense Mobilization is currently printing 35,000 more. The public is not apathetic toward civil defense. The public responds to balanced, accurate information on which it can base realistic action.

The Stanford Research Institute basement shelter plan has caught the public's interest for a number of reasons. First, it is simple. All the staff member has to do is know the warning signals, make an advance plan by which to assemble his family at the Institute when the appropriate signal is given, and move through the proper entrance into the basement area designated for his family. The Institute's basement shelter plan is also relatively inexpensive. It cost the Institute only a little over $10,500 for 3,000 persons, or about $3.50 per life potentially saved. Compared with costs of other employee benefits, the cost of the civil defense plan was negligible. A third merit of the Institute's basement shelter plan is that it keeps families together rather than providing only for the individual staff member; at the same time, it assures survival of an organized group of people accustomed to working together. Both of these conditions will allow us to make a more effective contribution in the recovery period. Finally, the basement shelter plan is effective: it does offer life-saving protection from local fallout and blast effects of any nuclear attack we may anticipate for the next several years.

This program is Stanford Research Institute's response to our government's current civil defense policy. Through similar planning — with some modifications appropriate to local conditions — other individuals and organizations can substantially improve their chances of survival and the nation's prospects of postattack recovery. *You* can help by letting others know that effective civil defense programs are within their reach and by initiating family, institutional, or community plans where you work or live. You may in this way help harden our national target system to the point that no enemy will find it profitable to attack, regardless of his fears of instant and devastating retaliation.

Clinical Experience With Medrol Medules: A New Long Acting Oral Corticosteroid Preparation

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A new specially coated preparation of methylprednisolone has been studied clinically in a group of 21 patients with various allergic disorders.

The majority of the patients were controlled on a once or twice daily dose.

In the group of chronic asthmatics it was possible to maintain equal control with a decrease in the total amount of steroid needed in a majority of the patients.

Side effects were minimal in the entire group. One patient had to discontinue therapy because of a side effect.

H.T.F.

THE aim of therapy, in general, is to relieve symptoms and prevent recurrence through etiological management. In the field of allergy such a program is possible in the majority of patients.

Symptomatic management with drugs, hormones and supportive measures are essential in most phases of clinical medicine. This becomes more important when etiology escapes detection.

Many allergic patients require symptomatic management on either a short term or chronic basis. Some of these patients can be placed on drug therapy such as antihistamines or bronchodilators but a significant number require the use of adrenal corticosteroids for better management. Since the introduction of cortisone in 1950, many new derivatives have been synthesized. Among these is methylprednisolone** which was synthesized in 1956(1). Early clinical experience with methylprednisolone was reported by Brown and Seideman,(2) Nierman and Van Metre,(3) Feinberg(4) and Grater(5). These workers found that this drug was somewhat more potent than prednisolone and that the fluid and electrolyte disturbances that had been associated with cortisone, hydrocortisone, and ACTH therapy were not observed(3). Brown and Seidman observed less side effects with methylprednisolone than with prednisolone in a double blind study during the ragweed, hay fever season in 1957.

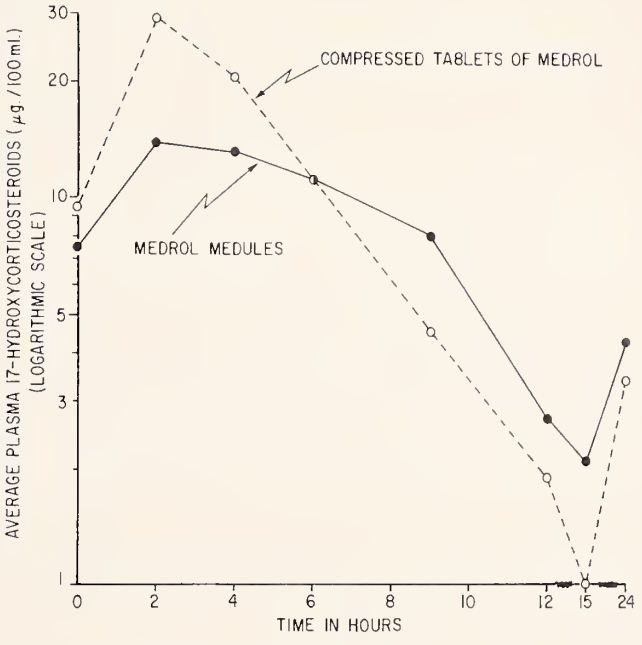
As has been true with all of the newer derivatives, methylprednisolone has been observed to be somewhat superior to other steroids in large groups while in isolated patients it may not be effective. Such observations are unexplainable on the basis of our present knowledge. Ideally, steroids are useful in allergic diseases in the highly symptomatic patients for short term use during diagnostic work-up. It may be necessary

**Medrol®

to continue them for the first month or two of specific immunological therapy. In acute drug reactions and in a small percentage (less than 1 per cent) of chronic bronchial asthmatics with marked irreversible emphysematous changes and in severe atopic dermatoses, they are also indicated. The aim of all non-specific therapy has been to maintain adequate blood or tissue levels at a constant concentration throughout the 24 hour period. This is not usually possible with the average oral corticosteroid because of the relatively short half-life that is observed with these compounds. This shorter half-life means that the compounds have to be given relatively frequently in order to maintain smooth blood levels. One of the other facets of oral corticosteroid therapy has been the incidence of gastrointestinal side effects observed with these compounds. A great deal of variation has been reported and it is thought by some investigators that there may be a local effect on the gastric mucosa from the steroids which may in part explain some of the symptoms(6).

Keeping the above points in mind, recently there has been developed a new, more prolonged form of methylprednisolone.* This is a capsule containing the dose of methylprednisolone as many evenly coated granules of the drug. The granules are coated with an inert plastic material which is insoluble in highly aeid media. Blood level studies comparing the plasma 17-hydroxy corticosteroid concentration following the oral administration of methylprednisolone as tablets or as the new coated granules of Medrol is demonstrated in Figure 1. These studies were carried out in 20 normal, healthy subjects who received a dose of 40 mg. of methylprednisolone (as tablets or medules) after a fasting plasma level of 17-hydroxy corticosteroids was obtained. They had repeated plasma steroid levels run at 2, 4, 6, 9, 12, 15, and 24 hours. The plasma concentration curves indicate that the absorption from the tablets was practically complete in 4 hours and that there was a straight line fall-off of plasma steroid level from that time on. In contrast, the methylprednisolone coated granules demonstrated continued absorption up until approximately nine hours at which time there was a straight line fall-off of plasma levels. Thus, it can be seen that a smoother and more prolonged plasma level of steroid can be obtained with the use of this material.*

FIGURE I



Materials and Methods:

Clinical trial was carried out in 21 allergic subjects fitting all or some of the criteria mentioned above. Methylprednisolone coated granules were administered as 4 mg. capsules on a twice daily dose in almost all patients. This study has been conducted over the past nine months. Comparisons to other shorter acting steroids in essentially the same phase of each patient's disease process were made by the author on all patients.

The 21 patients in this series were made up of a group of 15 females and six males with an age range from 9 to 73 years.

TABLE I

Diagnosis

Primary	Number	Secondary*	Number
Bronchial Asthma	15	Pulmonary Emphysema	6
Atopic Dermatitis	2	Allergic Rhinitis	6
Allergic Rhinitis	1	Bronchial Asthma	2
Rheumatoid Arthritis	1	Gout	1
Periarteritis Nodosum	1	Virus Pneumonia	1
Acute Laryngitis	1	Bronchiectasis	1
		Atopic Dermatitis	2

*Actually several patients had more than one secondary diagnosis. Further progression of pulmonary emphysema such as cor pulmonale is not listed - nor are other conditions including one diabetes mellitus.

* Medrol Medules, 4 mg. (Furnished through the courtesy of Hubert C. Peltier, M.D., The Upjohn Company, Kalamazoo, Michigan)

*This data was obtained through the courtesy of Dr. Harold L. Oster of Jackson, Michigan. Plasma steriod levels were done at Bio-Science Laboratories in Los Angeles, California.

The diagnosis as seen in Table 1 was broken down in primary and secondary diagnosis. The table only shows the total of each primary diagnosis and of each secondary diagnosis. Because of the author's long experience with the therapy of the chronic bronchial asthmatic patients, many of whom had complicating irreversible pulmonary changes, this group of patients is broken down separately.

TABLE II

Fifteen Patients with Bronchial Asthma

Patient Number	Primary Diagnosis	Secondary Diagnosis	Age	Sex	Results			Side Effects
					Superior	Same	Failure	
1	Bronchial Asthma	Pulmonary Emphysema	55	F	X			None
2	Bronchial Asthma	Allergic Rhinitis Gout	53	F			X	None
3	Bronchial Asthma	Virus Pneumonia	73	F	X			None
4	"	Allergic Rhinitis Pulmonary Emphysema	55	F	X			None
5	"	Bronchiectasis	31	F	X			None
7	"	Pulmonary Emphysema Cor pulmonale	70	M	X			None
8	"	None	9	M	X			None
9	"	Pulmonary Emphysema Atopic Dermatitis	22	M			X	Gastric Distress
10	"	Pulmonary Emphysema	49	F			X	Wakefulness, occipital headache
11	"	Pulmonary Emphysema	49	M	X			None
12	"	Pulmonary Emphysema	44	F	X			None
15	"	None	50	F			X	Cushingnoid
18	"	Pulmonary Emphysema Cor pulmonale	64	M	X			None
19	"	Atopic Dermatitis	30	F			X	None
20	"	Allergic Rhinitis	52	F	X			None

Clinical Results:

It is of interest to note (Table 2) that 10 of these 15 patients rated the longer acting preparation as superior to their prior steroid medication. However, in the five patients who considered the medication to be inferior to their prior steroid therapy, three of these cases (numbers 2, 9, and 19) had other complicating allergic disorders. Two of them (numbers 9 and 19) had atopic dermatitis and one of them (number 2) had allergic rhinitis. In the group with primary pulmonary disease, 10 of the remaining 12 rated the preparation as superior (one of whom also had allergic rhinitis).

The remaining six patients are broken down in Table 3 and help to emphasize the response in those with complex diseases.

We were particularly interested in our asthmatic patients in determining three things.

1). Is it possible to decrease the total amount of steroid required by the use of a longer acting preparation?

2.) Is it possible to decrease the frequency of dose and maintain good control?

3.) Is it possible to decrease the side effects seen with other preparations when the patient is placed on the new long-acting preparation?

In Table 4 we have compared the frequency of administration and the total amount of steroid required to maintain control in the 15 patients with a primary diagnosis of bronchial asthma. In order to simplify the over-all comparison, we converted other steroids to equivalence of methylprednisolone. The commonly accepted standard is that 20 mgm. of hydrocortisone is equivalent to 5 mgm. of prednisone or prednisolone, 4 mgm. of methylprednisolone or triancinolone or to .75 mgm. of dexamethasone. In one patient the new drug was not compared and in one patient prior steroid dose was not known.

In the other 13 patients it was possible to decrease the frequency of dose in eight patients.

TABLE III

Six Patients with Varying Primary Diagnoses

Patient Number	Primary Diagnosis	Secondary Diagnosis	Age	Sex	Results			Side Effects
					Superior	Same	Failure	
6	Atopic Dermatitis	Hay Fever	28	M			X	None
13	Atopic Dermatitis	None	9	F		X		None
14	Periarteritis Nodosum	Bronchial Asthma Diabetes Mellitus	38	F			X	None
16	Rheumatoid Arthritis	Allergic Rhinitis	62	F	X			Cushingnoid appearance after 9 months.
17	Acute Laryngitis	Allergic Rhinitis	34	F	X			None
21	Allergic Rhinitis	Bronchial Asthma	33	F			X	None

It was given at the same interval in four patients and given more frequently in one patient. The four patients who were given the medication on the same schedule were all on a 12-hour dose schedule with both the old and new medication. Thus, 12 of the 13 patients were maintained with a single or twice daily dose of the medication.

A comparison of the total amount of steroid necessary was obtained in the 13 patients mentioned. The amount of steroid (as methylprednisolone equivalents) was the same in three patients, more in one patient and less in nine patients.

A few representative case histories are included to demonstrate the response to the medication. Two of these are from the bronchial asthma group and one from the miscellaneous group.

Case 4 — M.S., 55 yr. old white female, secretary, unwed. A lifetime history of bronchial asthma and allergic rhinitis with a marked degree of irreversible pulmonary emphysema. Lives and works in a heavy smog belt. Does not require steroids except in dense smog as other-

TABLE IV

Comparison of Frequency and Amount of Medication
(15 asthmatic patients)

Patient No.	Prior Corticosteroid Therapy Amount (expressed as methylprednisolone equivalents)	Methylprednisolone Medules 4 mgms. Capsules Amount in milligrams per day	Results	
			Superior	Inferior
1	4-8 mgm. h.s. and prn. during day.	One capsule h.s. occasionally one capsule in a.m. if smoggy.	X	
2	4 mgm. b.i.d.	One capsule b.i.d.		X
3	None	One capsule b.i.d.	X	
4	4 mgm. q. 4 h.	4 mgm. q. 12 hrs.	X	
5	4 mgm. q.i.d.	4 mgm. b.i.d.	X	
7	4 mgm. q.i.d.	4 mgm. b.i.d.	X	
8	4 mgm. b.i.d. (p.c. supper & 3 a.m.)	4 mgm. p.c. supper	X	
9	4 mgm. daily p.c. supper	4 mgm. b.i.d. or more		X
10	4 mgm. at intervals	4 mgm. h.s. or b.i.d.		X*
11	4 mgm. 1 to 4 times daily	4 mgm. a.m. or b.i.d.	X	
12	Not specified	4 mgm. p.c. supper	X	
15	4 mgm. b.i.d.	4 mgm. b.i.d.		X
18	4 mgm. q.i.d.	4 mgm. b.i.d.	X	
19	4 mgm. b.i.d.	4 mgm. b.i.d.		X
20	4 mgm. t.i.d. or q.i.d.	4 mgm. h.s.	X	

*This patient got relief but had headaches - this experience was also true with prednisone and prednisolone.

wise responsive to routine immunologic care. A 4 mgm. Medrol Medule lasts 12 hours as compared to 5 mgm. of prednisolone given at a four-hour interval for the same total relief of dyspnea and cough.

Case 5 — F.N., 31 yr. old white female office worker with a 15-year history of uncontrolled bronchial asthma, peripheral segmental and bilateral bronchiectasis with recurrent infection of anerobic organisms. Routine anti-allergic management gives relief in the absence of infection without any symptomatic medication. When infections appear or smog is dense in working area extreme dyspnea occurs. Patient is exquisitely sensitive to iodides and routine bronchodilators are of little value. Response is good to all steroids tried at these intervals but prednisolone must be given in 5 mgm. doses four times a day or dexamethasone 0.75 mgm. four times a day for adequate relief. Medrol Medules 4 mgm. P.C. breakfast and supper give better results on a much lower steroid intake and without the rounding of facial contours obtained with prednisolone and dexamethasone in the doses required. The Medrol is rarely used for more than four weeks at a time and usually only for a week or two until antibiotics cure the infection or for a day or two during severe smog conditions.

Case 16 — M.G., 63-year-old white female housewife with crippling rheumatoid arthritis and allergic rhinitis who lives in the middle-western section of the U.S. Had been on prednisone and prednisolone for three years by her rheumatologist and developed a great deal of water retention, joint fluid and marked spontaneous subcutaneous hemorrhages. She was switched to dexamethasone with less relief and equal amount of hemorrhage. For nine months she has been on Medrol Medules 4 mgm. q a.m. and 4 mgm. H.S. except in very cold weather when an additional 4 mgm. are required P.C. lunch. Relief is excellent, water retention is less, little subcutaneous hemorrhage has occurred and only in the past three months but there is a marked buffalo appearance of the head and shoulders. The patient herself prefers the Medule to all prior steroids. Without steroids she becomes a total invalid as all spinal, all major and minor extremity articulations are involved in her disease. Fluid still develops in the knees but to a lesser extent than on the other steroids.

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Editorial Comment: A well-written paper with essentially one major point established, i.e., patient relief can be obtained with lower dosage of steroid when used in the coated granule form.

In rising hospital costs, the major factor is increased payroll. The higher payroll results from the increased number of personnel, the increased skills of the personnel, and improved personnel policies such as shortened workweek, higher salary levels, and health and retirement benefits.

Payroll accounts for two-thirds of total hospital costs, compared to one-third for industry. But unlike industry, the hospital must be ready to function 24 hours a day, 365 days a year. And the hospital cannot automate, except behind the scenes. Direct patient care is a personal service, to meet the individual human need.

(American Hospital Association)

Arizona Medical Association Reports

The President's Page

The Arizona Physician And An Arizona Medical School

Lindsay E. Beaton, M.D.



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The Chinese impart eharacter to each new year by giving it a zoological name. Perhaps the doctors of Arizona eould similarly designate 1960. In spite of the temptation raised by the politieal season, it might be seurrilous to eall this, "The Year of the Chameleon." An aeeeptable analogue, however, would be "The Year of the Sehool," for we may well remember it for whatever deeision is made about a medieal eollege for our State. By the summer of 1961, the Arizona Medieal School Study, authorized by the Board of Regents of the university system and supported by the Commonwealth Fund, will give the eitizenry a reeommendation for the prospeet of medieal education in the state. As the rumors inevitably propagate and the deeree is impatiently antieipated this may seem like another fifteen month "Year of Confusion," repeating 46 B.C., when Caesar juggled time in introdueing the Julian ealendar. But by the end of it one ean with eonfidenee expeet a definite resolution of doubt and a final answer to a question vital both to edueation and to medieine.

Arizona physieians are not alone in their travail of speeulation and waiting; men in other states are sharing the experience. New medieal institutions are appearing at an aeeelerating rate. Twelve four-year sehools have been organized since 1943, seven of them entirely new. A four-year sehool is being aetivated at the University of Kentueky, and the West Virginia University Sehool of Medieine is in the proeess of eonversion from a two-year to a four-year eollege. The Kellogg Foundation has given New Mexieo funds for a two-year school, and others may well be in the offing. In addition to Arizona, eight other states are eurrently considering sehools to meet coming shortages of physieians in their regions. California, New Mexico, Texas, and the twin city area in Minnesota, have already completed preliminary studies of medical needs and have taken the first steps toward implementation of plans made in eonsequenee. Idaho, Hawaii, Montana, and the Long Island area of

New York, like our State, are broaching investigations of the advisability of medical institutions. To maintain the present ratio of one physician to 750 individuals of population, it is variously estimated that from 20 to 31 additional schools must be created by 1970. If this is a race against time, others are in it with us.

This year is also a twofold opportunity for the physicians of Arizona. First of all, as will be described, they will play a contributing role in the medical school evaluation and will enjoy a chance to leave their mark on its determinations. Equally they have an occasion for learning a great deal about modern medical pedagogy, particularly through contact with the study's national advisory committee. As a thorough and comprehensive text to accompany the course, no better can be recommended than the Proceedings of the 56th Annual Congress on Medical Education and Licensure. This meeting was held in Chicago, February 7 through February 9, 1960, under the auspices of The Council on Medical Education and Hospitals of The American Medical Association and has been published in the July 23 and July 30, 1960, issues of The Journal of the American Medical Association.

The Arizona Medical Association (ARMA) is proud of its part in launching the current inquiry into the practicability of an Arizona medical college. In 1958, the Association, during the administration of President W. R. Manning, was the first to insist on the indispensability of an independent evaluation of the need for and feasibility of a school in this State. ARMA called for the suspension of judgment on the type and site of a school until an objective examination had been put on the record, and it demanded that the verdict come from experts in the field of medical education and not rest on the testimony of local persuasiveness and pressure. Last year under the leadership of President Dermont W. Melick, ARMA sponsored at its annual meeting a conference that featured some of the leading authorities in the country. The published symposium was widely distributed and elicited gratifying compliment from quarters of knowledgeable opinion. In view of this past activity of the Association, it is obvious that we will wish to continue our sponsorship of independent investigation, our impartial posture with regard to decision as to type or place of school, and our wholehearted cooperation with the specialists chosen to carry out the project.

The Arizona Medical School Study, which is the official title, has been instituted by the Board of Regents of the university system and most generously underwritten by the Commonwealth Fund. A brief introduction to the personnel of the Study and a description of its program should be informative to every member.

The director is Dr. Joseph F. Volker, who is on leave from the University of Alabama Medical Center, where he is Director of Research and Graduate Studies. Dr. Volker is a dentist and a chemist. He received his dental degree from Indiana University and his M.S. and Ph.D. in bio-chemistry from the University of Rochester. The list of honors in his curriculum vitae is too long for recapitulation, but it gives some comforting idea of his experience to know that he has been Dean of the Dental School at Tufts College, Dean of the Dental School at the University of Alabama, a special advisor to UNRA, to the State Department, and to the Jamaican Government, and Consultant to the Board of Regents of the University of Colorado in planning the dental school at that institution. He has been President of the International Association for Dental Research, Chairman of the Training Grants Committee of the National Institutes of Health, a member of the Board of Overseers of Harvard College, and a member of the Dental Advisory Committee of the W. K. Kellogg Foundation. His credentials are impeccable, and those of us who have already had the pleasure of working contact with him are convinced that the man himself even surpasses this impressive advance billing. We are pleased with Dr. Volker's patent wish to keep the Arizona Medical Association informed of the phase progress of the study and with his equal desire to work in close liaison with the physicians of the state. There is every reason to believe that our voice will be heard and heeded. Furthermore, Dr. Volker is well aware of the technical and practical problems of such an investigation, including the aspect of legislative indorsement, and the proficiency gained in conducting previous inquiries is going to stand the State of Arizona in good stead.

Dr. Volker's first assistant is Dr. John B. Dunbar, also a dentist, with an intriguing brace of degrees in philosophy and in public health. He is trained in the area of professional education and was consultant to the University of Kentucky Medical School in the organization of

its dental school. From first hand observation, Dr. Dunbar is an effective and competent individual, whom we are happy to have involved in our affairs.

The staff of the Arizona Medical School Study will additionally include a statistician, an economist and other professional persons. Dr. Volker has already obtained through the Presidents of the two Arizona universities the collaboration of their Business Bureaus, and graduate students are being employed for the collection and analysis of data. Contact has likewise been made with major local banks to enlist the assistance of their economic departments.

Finally, three major committees are nuclear in the study. The first of these is a national advisory committee made up of university administrators, medical school deans, leaders in allied scientific fields, and men with familiarity with the great foundations. The members of this group have already been announced in the press, and the roster includes some of the most distinguished names in the field of professional education in this country. The citizens and doctors of Arizona can be assured that they will get seasoned and matchless counsel from men of this caliber. The second committee is a citizens delegation, which will be appointed by the Board of Regents. It presumably will include legislators, public school educators, professionals from the allied health fields and health agencies, and representatives of Chambers of Commerce, labor unions, key industries, civic clubs, churches, ethnic groups, social agencies, voluntary hospitals, etc. It will constitute a general forum through which the public can be kept accurately informed and can make known its expectations and preferences. Third, there is the Arizona Medical Association's Medical School Committee, appointed by our Board of Directors and then ratified by the Board of Regents. The committee consists of the President and Drs. W. Albert Brewer, W. R. Manning, Dermont W. Melick, and Clarence L. Robbins, with Drs. Leslie B. Smith and L. A. Stapley members ex-officio as the President-Elect and Secretary respectively of the Association. Dr. Volker promises that the ARMA committee will have intimate and regular contract with the national advisory group, and by the time this article has appeared, the first joint meeting of the two will have been held. Our committee has already had a preliminary conference for orientation with Dr. Volker and Dr. Dunbar. It is clear that through this representation organized medicine in Arizona will have an appropriately substantial influence on the Medical School Study.

The doctors of this State cannot, of course, buy a pig in a poke, no matter how hungrily they may await the pig, and no matter how elegant the poke. However, they have fathered this project, and it would have directly to contravene their desires to elicit their disapproval. The physicians and the citizens of Arizona can be assured, I think without question, that Dr. Volker and his associates will come up with a definite recommendation, and there is every likelihood that it will be one that the Association can second. It is also fair to predict that the formal proposal will be at once practical and forward-looking and that it will serve well the needs of health in Arizona. All this is said without any presumption of trying to forecast the results of the evaluation; its concrete injunctions are locked in the future. I only offer assurance that the organization of the study and the people who are conducting it guarantee a superior job and a thoughtful result.

A quick survey of the quandary of medical education in our country today may be helpful in setting the stage for discussion in the months ahead of Arizona's medical school problem. That the rapidly mounting population of the United States entails a need for an increasing number of qualified physicians is not open to serious argument, no matter what dispute there may be about the numbers that will be required. A generally accepted estimate is that in the next ten to twenty years the annual output of doctors must be augmented by 35 to 40 per cent. This would mean that some 10,000 physicians would have to be graduated each year as opposed to the 7,000 now being graduated. The report of the Surgeon General's Consultant Group on Medical Education (Public Health Service, October 1959) indicates that not all of these graduates can be provided by existing schools. It calculates that by 1975 this rate of growth in the physician population, which it believes is a conservative figure, would demand the yield of 20 to 24 new two year and four year medical colleges. If present institutions cannot expand their classes without impairing training, the necessary reinforcement will amount to some 30 new schools. To compound the predicament,

it takes at least three years to conceive, build, and inaugurate a medical college, and there is a lag of five more years before the first graduates start practice. Finally, while this is not the place to discuss the economics of the emergency, a medical school costs ten to fifty million dollars, and, with new installations being almost entirely State-supported, legislatures are understandably placed on the hottest of political seats.

At the same time that the need for physicians is growing, applications to medical schools are shrinking. The number of students applying to the nation's medical colleges has dropped for the third consecutive year, although acceptances have increased slightly during the same period. In 1959, 14,951 young men and women applied, compared to 15,170 in 1958 and 15,791 in 1957. The number accepted has risen by some three per cent since 1956, according to statistics compiled by the Basic Research Division of the Association of American Medical Colleges. At the present time about one-half of all applicants are admitted, although there is great variation in this ratio from school to school. The recreasing interest in the profession inevitably occasions a lowered caliber of those admitted to the freshman class. The deans of medical schools are at least privately well aware that the old days of taking only the straight "A" student are over. Any graduate of an acceptable college with a "B" average can now be sure of admission. Diminution in the academic quality of the students comes at a time when the volume and the intellectual content of the medical school curriculum are multiplying in almost geometric progression. One cannot help but commiserate with today's medical postulant.

Speculation is always irresistible, and there would seem to be a number of imaginable reasons for the decline in applications to medical schools and the more moderate average capacity of the applicants. It seems clear, first of all, that medicine no longer enjoys the exclusive "glamour" status it once shared only with the law. Other scientific groups, such as the nuclear physicists, the missile engineers, the industrial chemists, have become the heroes of our culture. An even darker part of this picture is the fact that the physician's image in the eyes of his fellow citizens has deteriorated for reasons that the author has discussed in the June issue of this journal, and he is therefore a less compelling model for the young. A second factor in the ebbing attractiveness of medicine may be the relative decline in the doctor's economic position. Men in other fields can earn as much with far shorter education and become financially productive at an earlier phase in their professional lives. Scholarships and fellowships in the physical and biological sciences are readily available from the great philanthropic funds, from the Federal Government, and from such institutions as the National Science Foundation. Support is given throughout the Ph.D. program and is quite adequate, in contrast to the plight of the medical student, who gets no stipend during his four years of medical education. When the Ph.D. finishes his preparation, his opportunities are as challenging as those of the M.D., his pay and security are as satisfactory, and community respect for his discipline is as high or higher. The end of the G.I. Bill may contribute to the problem, by making fewer young men able to sustain the expense of the long years of medical study. Finally, the threat of bureaucratic control of practice may discourage some from entering a vocation that has been thought exceptional in being governed only by professional standards and individual merit. Under these present conditions medicine cannot compete for a majority of the top young brains of the country, and it is manifest that prompt alterations must be made in the entire medical stage if the public health is to be sustained at a high level.

Both of the major political parties in their platforms in this election year recognized the need for assistance to medical education, though they varied in their approach. The Republican platform pledged "continued Federal support for a sound research program aimed at both the prevention and cure of diseases and intensified efforts to secure prompt and effective application of the results of research." It further promised "federal help in new programs to build schools of medicine, dentistry, public health and nursing and to provide financial aid to students in those fields." The Democratic platform stated, "To ease the growing stortage of doctors and other medical personnel we propose federal aid for constructing, expanding and modernizing schools of medicine, nursing and public health. We are deeply concerned at the high cost of medical education in putting this profession beyond the means of most American families. We will provide scholarships and other

assistance to break through the financial barriers to medical education."

In addition to the real enigma of recruitment of the proper kind and number of students, the whole sphere of medical education is in ferment. When Arizona's doctors come to judge the Arizona Medical School Study, they must realize that there have been changes in the techniques and format of medical pedagogy since most of us were in medical school. Understanding of these innovations will advance the adjustments and reconciliations that will be necessary in our thinking. The foremost difference is the strengthening of the tie of medical education to general university education. There is nothing new, of course, about the location of medical colleges in universities; the professional faculties were integral parts of medieval European universities. In modern times, however, medical schools have often been relatively autonomous. There is now a definite return to the former intimate relationship between general and professional education, which has effectually put control of medical teaching in the hands of universities. Along with this evolution has gone a transfer of general superintendence over medical education from the American Medical Association to the medical schools, which essentially now means direction by the universities. As one reads the Proceedings of the 56th Annual Congress on Medical Education and Licensure, this fact is taken for granted throughout. In that report, Dr. H. Stanley Bennett, Chairman of the Department of Anatomy at the University of Washington School of Medicine says, "We can look with pride at the past and with sober determination at the future of medical sciences as university disciplines." And that puts it in an academic nutshell.

The enormous expansion of American universities in response to the educational needs of an increasing population, the G. I. Bill, and other economic factors probably account partly for this academic preemption of the field of medical teaching. The mounting cost of medical education and research has made the university the only feasible cost of medical education and research has made the university the only feasible place to undertake these functions, but in addition to economic explanations there are intellectual and instructional reasons. The deepening significance of the basic sciences both in the practical indoctrination of the physician and in the development of medical knowledge has necessitated the supplementation of the therapeutic team by many non-medical professionals, from mathematicians to social workers. These people can work effectively only in a university setting, where they have access to university facilities and where they can meet their need for consultation with other university scientists, the professors of the physical and biological science departments, and the men in the departments of sociology, psychology, and cultural anthropology. It must be recognized that not only is contact needed with the natural scientists but equally with the social scientists, who have a seminal office in the deciphering of mental disease and in the broad area of human ecology, aspects of medical understanding that are probably just as vital as of increased biophysical knowledge.

Equal in degree have been the shifts in the medical curriculum. There has been less and less time spent on the venerable pillars of medical education of twenty-five years ago, such as anatomy and embryology. These traditional courses have had to be curtailed to make place for new scientific learning, particularly that of a biophysical and biochemical nature. Nuclear medicine, medical physics, and newly sophisticated medical biological knowledge have shouldered out some of the old observational disciplines. So salient is the importance of biophysics in today's medical comprehension that it has been said that modern medicine is basically electronics. At the same time there is spreading insight into functional disease, so that a place must be made in the curriculum for the mental health sciences, rehabilitation, behavioral studies, geriatric medicine, and sociological medicine. The educator faces a paradox, the need to train the medical student on one hand to be an adept biological psysicist and chemist and on the other to have a breadth of cultural and psychological perception that will enable him to penetrate all aspects of psychological illness. Along with electronics goes an awareness of patients as individual human beings, and the medical colleges are reacting by various types of the so-called "vertical curriculum," as opposed to the horizontally stratified subjects of medical education thirty years ago. Students begin their clinical studies as freshmen and carry them throughout the four years

in company with the basic sciences. The vertical curriculum is by no means as yet endorsed all over the country, but it is an experiment that must be taken into serious account by anyone thinking of curricular system for a new medical school. At the very least it is a concept that is enriching medical pedagogy, no matter how much individual institutions may remain to some extent loyal to the conformation of medical education made authoritative by the recommendations of the Flexner report in 1910. There are other new approaches, like the five-year combined medical school course, which selected students may enter after only two years of undergraduate work as in varying schemes being tried at Stanford, Northwestern, Vermont, and Johns Hopkins, or the many types of integrated teaching programs utilizing multidisciplinary liaison.

Finally, a change in the design of medical education has been brought about by the medical center pattern. It has become evident that the only efficient way to teach young doctors is in a concentrated and inclusive physical plant. One has only to visit such facilities to recognize how complex they are, how large they are, and how expensive they are. In fact, the actual amount of space required becomes a matter of practical importance. The University of Alabama Medical Center very quickly expanded from a single square city block to fifteen square city blocks. An institution of this intricacy must have a large staff. Perhaps the most critical deficiency facing medical education today is the shortage of teachers, particularly in the basic sciences. The concensus is that scientific medical instruction must primarily be managed by a full-time faculty, even in the clinical departments, although the part time practitioner-teacher will always have his place. The medical center also demands specialized hospital construction, and the community that has accepted an existing hospital as the nucleus for a medical school has usually lamented the decision. The ordinary community hospital does not have the classrooms, the examination cubicles, or the clinic demonstration amphitheaters needed for teaching, nor does it possess investigative laboratories in close proximity to patients. A modern medical center must contain areas for student research. There has been rapid increase in student participation in research; in some medical schools as high as fifty per cent of the undergraduate body may be involved. This emphasis on investigative training for the future physician obviously implies a hospital of very special arrangement.

There are a number of challenges to understanding that face the physicians of Arizona as they consider the possible introduction of a medical school. One is the altering status of the academic scientist, be he a medical scientist, social scientist, or physical scientst. There are at present some 10,350 full time teachers in medical schools, approximately one-ninth of the teachers of science in this country in universities, colleges, and junior colleges, and approximately one-twenty-fifth of all of the teachers in this country in higher education. The academic medical scientist is fairing well economically, considerably better than his colleagues in the humanities and social studies, for reasons that need not be here discussed. Particularly, the salaries of the professors in the clinical subjects in medical colleges have been raised until they are substantially higher than those of the other university faculties, even those of the faculties of the natural sciences. In a few schools, such as Johns Hopkins, strenuous efforts have been made to correct the inequity between the income of the professor in the basic sciences and that of the professor of clinical subjects. In addition to an enhanced economic position the academic scientist is now often presiding over departments of considerable scope and importance, which enjoy the standing that inevitably accompanies the expenditure of large amounts of money. Thirdly, the university scientist, medical or otherwis, is no longer an ivory tower dweller but a man commanding definite connections with the outside world of government and commerce, with the distinction and rank conferred by his professorial title and public deference for the originator of research. The academic medical scientist is more likely than his brother in private practice to be involved in political concerns at a level that gives his individual opinion significant weight. The practicing physician must realize that the medical school professor has a new autonomy and independence, with at least equal influence and eminence.

There are certain definite areas of conflict between physicians who work in a medical school and those who are in private practice, and not the least of these is a difference in socio-economic outlook. Political scientists tell us that

there has been a recent tendency for the white collar, professional, and well-to-do classes generally to become more clearly identified with a conservative political allegiance, while organized labor, various minorities, and certain intellectual groups are more likely to be "liberal." These intellectual groups, observers agree, include the academic scientists, among them many medical academic scientists. This contrast in politicio-economic orientation becomes potentially divisive at a time when organized medicine believes that it must fight for its continued existence against social schemes advanced by admittedly responsible national bodies, and tolerance is needed on both sides. Finally, the academic medical scientist has become the expert in medical education, and he will not lightly accept challenge to his views on the subject by men in practice. Little will be gained by quixotic jousting with our brethren who have devoted themselves to this aspect of our common profession, an aspect where we have little current expertise.

One of the acknowledged crises that has often arisen in cities where new medical schools have been established has been that of the private practice of the full time medical teacher. The problem centers on whether he should be allowed to compete with the practitioner in town by maintaining a private practice in addition to teaching duties. Often the competition seems unfair because of the reputation lent by professional prestige. Communities where medical schools become located may regard the professor of surgery or medicine as the Olympian souree of final opinion, to the detriment of the private man. Attempts to solve this real dilemma have not been entirely satisfactory. No one can deny the necessity for patient treatment in medical schools. As Arthur Richardson, Dean of the Emory University School of Medicine succinctly put it in his address before the 56th Annual Congress on Medical education and Licensure, "Medical service in the form of taking responsibility for the care of patients is a necessary function of the modern school in order to create the proper environment for the teaching of clinical medicine." Throughout the speeches before that Congress one detects the implicit belief that the university hospital is the best and must be the best that medicine has to offer. There is probably room for dissent, but this is the faith of our colleagues in education. One ean only applaud their insistence that the medical management afforded as an example for doctors in embryo should unequalled, even though physicians outside of university circles have an equal desire for the highest quality of medical service.

Another very important question that becomes posed with new bearing when one seriously contemplates instituting a medical school is federal aid to education. The current stand of the American Medical Association may briefly be stated as an acknowledgement of a need for assistance in the expansion, construction, and remodeling of the physical facilities of medical schools sufficient to justify a one-time expenditure of federal funds on a matching basis. The AMA further exacts a program so structured as to insure the maximum freedom of the recipient schools from control by Washington. The House of Delegates of the AMA in 1951 passed a resolution that no part of funds provided by the Government should be used in any manner for operational expenses or salaries, and this stand is still the official policy of the AMA. With all due respect to our national leadership, one may dispute the realism of this stand. It is ironically clear that much of medical education today rests on federal support, even though that support is not straightforward but rather arrives in an indirect fashion through the channel of research. Both the AMA and the Congress piously object to any frank aid to medical education, but no one dares oppose any grant made in the name of investigation. Governmental research appropriations have without question helped to meet academic salaries in spite of the sanctimonious refusal even to admit the need. In a recent publication, Herbert H. Rosenberg of the National Institutes of Health, points out that the grants of that agency now comprise almost thirty per cent of all federal research expenditures in academic institutions. Through the use alone of support of basic science research fellowships and traineeships medical education is substantially underwritten by Washington, and recently similar assistance has been extended to the clinical side. Probably if federal aid were suddenly withdrawn today about sixty per cent of the activities of the nation's medical schools would come to an immediate and complete halt. The universities cannot be expected to rebuff such succor, and their utter dependence for research development on governmental aid is now firmly established. In comparison, the

money given the medical college, by AMEF is hardly more than a helpful drop in the bucket. This constitutes a substantial divergence from what most practicing physicians think about the question of federal aid to education, and the disagrcement is another illustration of the way in which medical education has become so firmly a university responsibility and has becn so largely removed from the effective guidance of the American Medical Association. If the members of ARMA are to participate in medical education in our state, they must face modern reality and not pine to restore the school of thirty years ago.

This is certainly not to deny the dangers in federal dominion over medical investigation and medical education. The AMA has very properly and very strongly pointed out the necessity of institutions controlling their own research destinies, with the right to pursue projects which may not possess public appeal. The AMA proposes that the use of project grants has already limited the discretion of medical schools to follow new avenues of investigation. As in other fields of research, government support is often earmarked for programs that will be of immediate "practical" use, while more significant basic work is starved.

A most provocative analysis of the perils that accompany government patronage has been published in a recent report of the Academic Freedom Committee of the American Civil Liberties Union, which posed itself the question: "Is it in the interest of society to permit the universities to lose a large measure of their authority in shaping the development of their own affairs?" The ACLU Committee found itself concerned with the limitation of freedom of investigation through the application of government security procedures, the unequal distribution of funds so that important areas of scholarship were overlooked, the neglect of individualistic nondirected research in favor of so-called programmatic rescarch, and the fact that the bulk of grants is alloted to institutions with outstanding names. This last works to the detriment of new schools who are coming up the scholastic ladder and thus curtails the opportunities of younger and less well-known scientists who may actually be more likely to be fruitfully original. The committee says, "It must be clearly recognized that if outside financing of university research and graduate education, particularly in the natural sciences, continues to follow present patterns, it will inevitably lead to a very serious erosion of university control of university activities. We should face squarely the question as to whether wc are prepared to break with the long-established tradition which entrusts to universities the large measure of automony in their proper functions of educational research — whether we are prepared to replace a significant fraction of this automony by a patchwork control exerted by a variety of bureaus with widely differing aims and interests."

There is also the threat that research people in the universities become so encumbered with specific project work that they neglect both their teaching responsibilties and imaginative inquiries of their own. This consequence might in the long run be a real injury to the national interest. Probably the entire enigma should be pondered by some outside authority, perhaps through one of the major foundations.

Whatever our doubts, for the moment the reality of federal sustenance of medical research confronts us, and while we battle to hold bureaucratic control of medical education at a minimum, we would not wish to see the volume and quality of that training reduced by the withdrawal of federal funds for scholarly investigation. The issue ahead is the advisability of the extension of such aid in the shape of student stipends, faculty salaries, and funds for operating expenses. It must be conceded that medical education and medical research are national missions and that they must be nutured through a national effort. This has been put forcefully by John C. Weaver, Dean of the Graduate College and Research Administrator of the University of Nebraska in a recent publication where he says, "The costs of achieving a healthy and a necessarily massive growth of the facilities of higher education transcend both the available resources and interests of any single state or local community." And he goes on with what may seem like heresy to some, "Federal aid to education is here, and clearly here to stay. Neither theoretically nor practically is there anything wrong with the basic concept of federal aid to higher education; indeed, it has become prerequisite to the future growth and attainment of higher education. It is providing the direct support for a major proportion of research of the

faculty. Federal funds also provide much of the expensive equipment and some of the physical facilities which the university would presumably have no other way of obtaining."

This panorama of modern medical education may make the practicing physician feel that he no longer can have much part in it. We hope he is wrong. Ideally medicine is one house, in which there is work for men of many talents and specialties, of which the practicing physician and the medical educator are merely two. The private doctor will not serve the profession well by blind opposition or by abdication from the responsibility of training his successors. If he will acknowledge the changes in the medical education and go half the way in generous cooperation, he will probably find that he retains the position of practical mentor for the apprentice. This is one of the joys of medicine, and part of our counsel to the Arizona Medical Society Study will be to offer the service and claim the privilege.

First of all, one trusts that an honored place will remain for volunteer teaching by private physicians in the medical school. It is substantially agreed that the educational staff must be largely full-time. There is still an indispensable place for the man in private medicine. Unless there is to be some enormous and unforseeable mutation in the nature of practice in this country, most of the graduates of our medical schools are going out into private practice. In schools staffed only by full-time men, students are very likely to see only hospital patients. Any private doctor, with the possible exception of the surgical specialists, knows that the major portion of his care of patients is not carried out in the hospital. The volunteer physician teacher can serve to correct the misapprehensions raised by pure hospital training under men with only hospital practices. Furthermore, he can instruct the novice in those psychological elements of therapy that govern the patient-physician relationship. Efforts are being pushed in medical schools to meet these concrete problems, but the man with the indispensable experience with people is the private practitioner.

It is of considerable interest that there is some expression of dissatisfaction, both by students and by graduate doctors, with certain aspects of modern medical education. Some large hospitals are again dreaming of founding their own schools. By all portents this would seem to be a minor counter-tendency, but it is one that cannot be totally shrugged off. More significant perhaps are the hospital residency programs, which at least in some parts of the country have lured personnel away from the university medical school residency programs, presumably by the practical tutorship offered or by certain outstanding physicians who are associated with hospitals and not with universities. The medical colleges are demanding, as heads of their departments, men of amazing qualifications. They must be very young and enormously experienced, unsurpassed clinicians and the authors of countless papers, willing members of the team and complete individuals, mature and able to "grow up with the school." These requirements rule out some of the most capable men in American medicine; it is comprehensible that young doctors will leave the universities to go under physicians of peerless competence who may not be of an age to grow up with the school. America is a pluralistic society, and pluralism in all educational fields has always been considered desirable. There is no reason why pluralism in medical education should not also be advantageous. But the major burden of medical teaching in the future will be carried in the universities under plans which are largely dictated by academic thinking. This is the fact that we must bear in mind as we attempt to contribute our bit to the study now under way in Arizona.

There are other avenues by which the practicing physicians of Arizona can promote medical education. The recruitment of young men into the profession, for instance, probably largely depends on the example and influence of the private doctor. This Association through its Benevolent and Loan Fund will help young persons to finance a medical education. Through its careers program it intends actively to enlist disciples for what is to us the most rewarding way of life that a man can have. I would gently suggest that this is not to be done by extending reassurances of economic success and social standing but rather by emphasizing the intellectual delights and emotional gratifications of being a physician. Above all it is by precept that the physician will convince young men and women. As I have said in another place, the physician must again become a respected model to be copied and emulated and must annul his present false public image as a money-minded

business man.

There are other chores for us. We can insist that the payment of house officers in our hospitals be more reasonable. We can always be on the alert to fight the detractors of medicine. We should do everything that we can to insure that when a medical school is established there is no destructive antagonism between medical teachers and private medical practitioners. We must defend the great body of medicine against private medical practitioners. We must defend the great body of medicine against those who picture educators as socialists and who scorn the scientific medicine they are trying to teach. We must champion a strong medical faculty and not denigrate it. And finally we can exert our great leverage to avoid state chauvinism in medical education. Virtually all state supported schools enroll 90% of their classes from state residents. If Arizona is to have a great medical school, it must not be one that insists that only Arizonans will be taught in it.

One can conjecture that die has probably been cast for the real option about a medical school in Arizona. The question is probably not whether we will have a school but when and where and of what kind. This is the only State with a population of a million or over without a four year medical school. It is a State that is growing rapidly in all dimensions. It will inevitably some day require a medical school. So far as the doctors of Arizona are concerned, the decision about a medical school is like the decision about any other medical matter: it is to be reached on the single ground of the health of the public. A determination about a medical college should not be made because of the ambitions of university presidents, university faculties, or university boards for expansion and the status that goes with a professional school. It should not be settled on the grounds of civic pride, and it should not result from the desires of the great foundations to spend their funds in spectacular fashion. On the other hand, the decision must not rest with the vested interests of the physicians of a given locality or with the aspirations of specific educational institutions or with the resistances of large taxpayers. So far as we are concerned only one thing is relevant: what will enhance the health of the citizens of Arizona.

The members of this Association have a chance to set a real example of cooperation, of unity of purpose and action between medical education and practicing physicians. There is no time for this cooperation to start like now, and it will first consist of understanding of the problems of the Arizona Medical School Study, as outlined in these pages. Our profession depends for its future on constantly progressive medical education, and it is therefore properly our concern. No profession can divorce itself from accountability for the system and content of the training of its members. Ward Darley, head of the Association of American Medical Colleges has called the current crisis in medical education "the most serious that medical education has faced since the Flexner report" fifty years ago. It is a crisis that we in Arizona can do our full part to dispel.

PROFESSIONAL COMMITTEE

Meeting of the Professional Committee of The Arizona Medical Association, Inc., held Sunday, August 28, 1960, John R. Schwartzmann, M.D., Chairman, presiding.

SUBCOMMITTEE REPORTS

Aging

Written report of Samuel J. Grauman, M.D., was presented with summation for the Professional Committee's information on the health of the aged as it becomes a national, state and local problem. This report is in complete detail at the present time and is being forwarded to the Board of Directors of this Association for its consideration, and essentially reiterates the stand that has been recommended many times by this Committee. Considerable support for the Professional Committee's position and recommendations in the past are tabulated in this report.

It is the resolution of the Professional Committee that the essence and substance of this report be referred on to the public Relations

Committee, through the Board of Directors, for information both to the members of this Association, through the State Journal, as well as such portions of the report as are deemed suitable by the Public Relations Committee to be brought out as the State Association's opinions and stand for publication in newspapers and lay periodicals throughout the State, as an educational program to eventually aid in attempting to administer, from the medical standpoint, the recently passed bill of Congress dealing with the health care of the aged, as it will eventually apply to the state groups. It is the further recommendation of the Committee that the Board of Directors consider apprising the Governor of the State and his Committee on the Problems of the Aging of this Association's philosophy and feelings with respect to the medical care of the aged and medical problems of the aging so that political administration thereof can be tempered by such information as we are able to offer.

It is to be noted that at the last meeting, a request for medical service in Youngtown, Arizona, was presented to this Committee. A request was made through liaison groups in the Maricopa County area to obtain information from the representatives of the Youngtown, Arizona, group. This investigation apparently has been withheld because of the vacation schedules of the members requested to undertake same and it is anticipated a report will be forthcoming for the next meeting of this Committee. A recommendation will then be made. It is to be noted again that in the future, when either inactivity on the part of appointees for such information or vacations interfere with obtaining such information, as was requested, the chairman of the Professional Committee requests that he be notified so that new appointees can be contacted and such information gained so that continuity of dispensing with working problems can be carried out at the subsequent meeting.

Cancer and Medical Education

Robert C. Leonard, M.D., for general information to the state Association, reported on the coming Cancer Seminar scheduled to be held in Tucson in January of 1961.

Attention was again directed to the defeat, about two years ago, by the Arizona State Legislature, of the recommendation for a state-wide cancer registry. This recommendation had been previously approved by the Professional Committee and by the Board of Directors. It is again directed that this be brought to the attention of the Board of Directors for consideration of this particular recommendation, if it so desires.

Regarding medical education problems, Doctor Leonard discussed one with respect to intern-resident services in the larger hospitals in the state. They face the problem of deficiencies in filling assignments on the house staffs with the requirement of ECFMG certification of all foreign medical school graduates. Doctor Leonard was directed by the Committee to detail an announcement to be forwarded to the hospitals involved in intern-resident appointments, referrable to the potential problem that will present itself in another few months if significant numbers of the foreign medical students fail to pass the examination scheduled for September next. This matter of information and warning might also be brought to the attention of the membership of the Association through its Journal or possibly it could best be pursued through direct communication with the county medical societies.

Civil Defense and Safety

Doctor Howard W. Kimball had no report.

General Medicine

Doctor Orin J. Farness was not present at this particular meeting. Doctor Lowell C. Wormley, a co-member on the General Medicine Committee, reports a communication from the Arizona Radiological Society referable to skin testing and preliminary determination of tolerance on the part of patients to many of the radio opaque contrast media used in diagnostic roentgenology. It was the conclusion of the Committee that Doctor Wormley refer this letter to the Research Council of AMA to gain adequate scientific information to justify this Committee's making any recommendation and answer to it as presented. This will be done by the time of the next meeting.

In addition to this, the Arizona State Board of Pharmacy has circulated all members of the medical profession with a statement of policy referable to permanency of non-narcotic prescriptions. This was gone over in some detail.

The national board recommends strongly approval of the statement of policy by the Arizona State Board of Pharmacy and recommends that the State Board of Pharmacy be apprised of the medical society's approval, urging that this become a permanent policy on the part of the Arizona State Board of Pharmacy.

Hospitals — Nursing

There was no report requiring action at this time.

Maternal and Child Health

In keeping with the item appearing in the last meeting minutes of this Committee, which was considered at the time by the Committee members to be relatively unimportant, the problem of "Enzylac" was again brought up. Doctor John S. Kruglick of Phoenix was present, along with Mr. Kenneth R. Mason, representing the American Seal-Kap Corporation, producers of the product "Enzylac." The entire problem brought to our attention by the AMA Division of Scientific Activities, Department of Foods and Drugs, pointing out the inaccurate advertising on the part of the "Enzylac" Company, was gone into in some detail. Doctor Kruglick presented a summary on "Enzylac," which he himself states he plans on publishing. A copy of this summary is on file and should be forwarded to the Board of Directors for its consideration; however, throughout the basic discussion at this meeting, it was the feeling of this Committee that it could only be entirely objective and, since information from the AMA was not adequate to either agree or disagree with Doctor Kruglick's presentation, the subcommittee chairman was instructed to contact the Department of Foods and Drugs of the AMA to gain factual information rebutting the alleged inaccurate advertising on the part of "Enzylac." This will be obtained by the time this Committee next meets and a specific recommendation in keeping with the memorandum from AMA will then be presented to the Board of Directors.

Doctor Johns stated that the Maternal and Child Health Committee has been furnished with a request by the AMA for maternal and child health statistics and studies in the matter of infant mortality. No such statistical study is adequately kept in this state and none that can be adequately evaluated is of record at this time. On the basis of Doctor Johns' report and his investigation, it is the recommendation of this Committee that the Board of Directors consider favorably action for instituting and aiding in the establishment of a survey on infant mortality for proper analytic studies by the State Medical Association. This study is to be carried out by the State Department of Health.

The following resolution was adopted:

WHEREAS, the infant mortality in Arizona leads the nation, and

WHEREAS, previous studies have helped reduce infant mortality, therefore

BE IT RESOLVED, that The Arizona Medical Association, Inc. set up a state-wide maternal and infant mortality committee to study each death within the State.

Doctor Johns offered to develop the format for such a program, with the assistance of the State Pediatric Society, State Obstetrics Society and State Department of Health, closely following the New Mexico plan, if the Board of Directors so desire.

Mental Health

Doctor Otto L. Bendheim discussed the problem presented by the Tucson Sunday Evening Forum referable to meeting scheduled to be held October 30, 1960, the speaker: Milton H. Erickson, M.D. (Phoenix); the subject: "Hypnosis." Following is the resolution of the subcommittee on Mental Health of this Professional Committee:

WHEREAS, the subject of hynosis has received increasing interest and publicity, and

WHEREAS, lay groups and organizations are seeking out informed opinions on the subject of hypnosis, and

WHEREAS, numerous unqualified speakers and self-styled experts have spread potentially dangerous and damaging misinformation on the subject, and

WHEREAS, such misinformation has led to misuse of hypnosis by professional and lay people, therefore,

LET IT BE RESOLVED, that the subcommittee on Mental Health of the Professional Committee of The Arizona Medical Association

be directed to act in a consulting capacity to those professional and lay groups seeking advice in the selection of qualified experts as speakers and/or instructors in the field of hypnosis, when requested.

It is directed that the content of this resolution be forwarded to the Board of Directors with the recommendation that it be approved; further, that the Pima County Medical Society be appraised of action recommended by this Committee with respect to its relationship to the Sunday Evening Forum in sponsoring and publicizing Doctor Erickson's performance there.

Rehabilitation — Industrial Health

There was no report requiring action by this Committee at this time. However, rehabilitation facilities, activities and services are being studied further by the subcommittee and information referable to the interest in vocational and industrial rehabilitation is being taken up by it for a subsequent report and recommendation to be indicated to the Board of Directors in the future.

Venereal Diseases

There was no report made, Doctor Paul J. Slosser not being present at this meeting.

COMMUNICATIONS

1960 Physician's Award

The only communication requiring consideration at this time was the memorandum from Doctor Lindsay E. Beaton, referable to The President's Committee on Employment of the Physically Handicapped — "1960 Physician's Award." It was the concensus of the Committee that there is no reasonable recommendation to be made in naming individuals from the State of Arizona for competing in this award at this time.

Medical Practice Acts

This completed the meeting. The members are directed to acquaint themselves with the Arizona State Medical Practice Act as well as with the Washington Medical Practice Act, all members of this Committee having copies thereof. This will be the major topic of discussion at the next meeting of this Committee.

Respectfully submitted,

Lorel A. Stapley, M.D.
Secretary

PUBLIC RELATIONS COMMITTEE

Meeting of the Public Relations Committee of The Arizona Medical Association, Inc., held September 11, 1960.

AMA PUBLIC RELATIONS INSTITUTE REPORT

A report of the Public Relations Institute held September 1 and 2, 1960, in the Drake Hotel, Chicago, Illinois, attended by Roy O. Young, M.D., Chairman and Paul R. Boykin, Assistant Executive Secretary, was reviewed in detail for the benefit of the members in attendance. The conclusions noted were that public relations are best originated, followed and completed by the doctor of medicine in his office with his patient. These suppositions are based upon fact that if the patient is completely satisfied with services rendered, for fees assigned thereto, that the dictates of his family physician will be followed through the psychological reasoning of personal satisfaction. Major problems confronting medicine today are thought to be based upon the rare unfortunate circumstances whereby a patient is dissatisfied with services rendered and fees charged associated therewith, where the lackadaisical attitude of the physicians' confreres in hearing the cause of the unhappy patient, and attempting to make available to him, without further cost, a satisfactory re-evaluation of his medical problem and his financial problem.

It was the further consensus that medicine should take an extremely active part in all local

functions, civic, fraternal, religious, political, etc., carrying the weight of experience, guiding the program during publicity, and letting the plaudits follow where they may.

Lengthy discussion ensued reviewing in detail the many facets of public relations both within and without the doctors' offices. Inasmuch as a quorum was not in attendance, it was agreed that Doctor Hileman (Southern District Director) would present to the Board of Directors at its next meeting the following conclusions reached for its further consideration:

1. Expore the possibilities of offering a "newcomer service" similar to that recently introduced by the First National Bank of Arizona, or possibly participate therein, or through the press-radio-television media to introduce Arizona

2. Develop a realistic "placement service" Medicine to the newly arrived people and assist them in the location of a doctor of medicine to serve family needs.
through this Committee to assist and encourage doctors of medicine to select a location of practice with emphasis on communities of need, arranging meetings with community representatives to explore and better understand their needs, displaying Medicine's interest and willingness to assist in their problems and be the medium of introducing a potential doctor of medicine and his wife interested in locating in the locality.

3. Initiate public relations programs wherever possible and through whatever media keeping the public informed of problems associated with the practice of medicine.

4. Keeping abreast of publicity as appears through whatever media and, in cooperation with such media sources, be prepared to immediately provide facts on a local or state level, if need be, endeavoring to set straight in the minds of the public the true "image of the doctor of medicine."

Respectfully submitted,

Lorel A. Stapley, M.D.

Secretary



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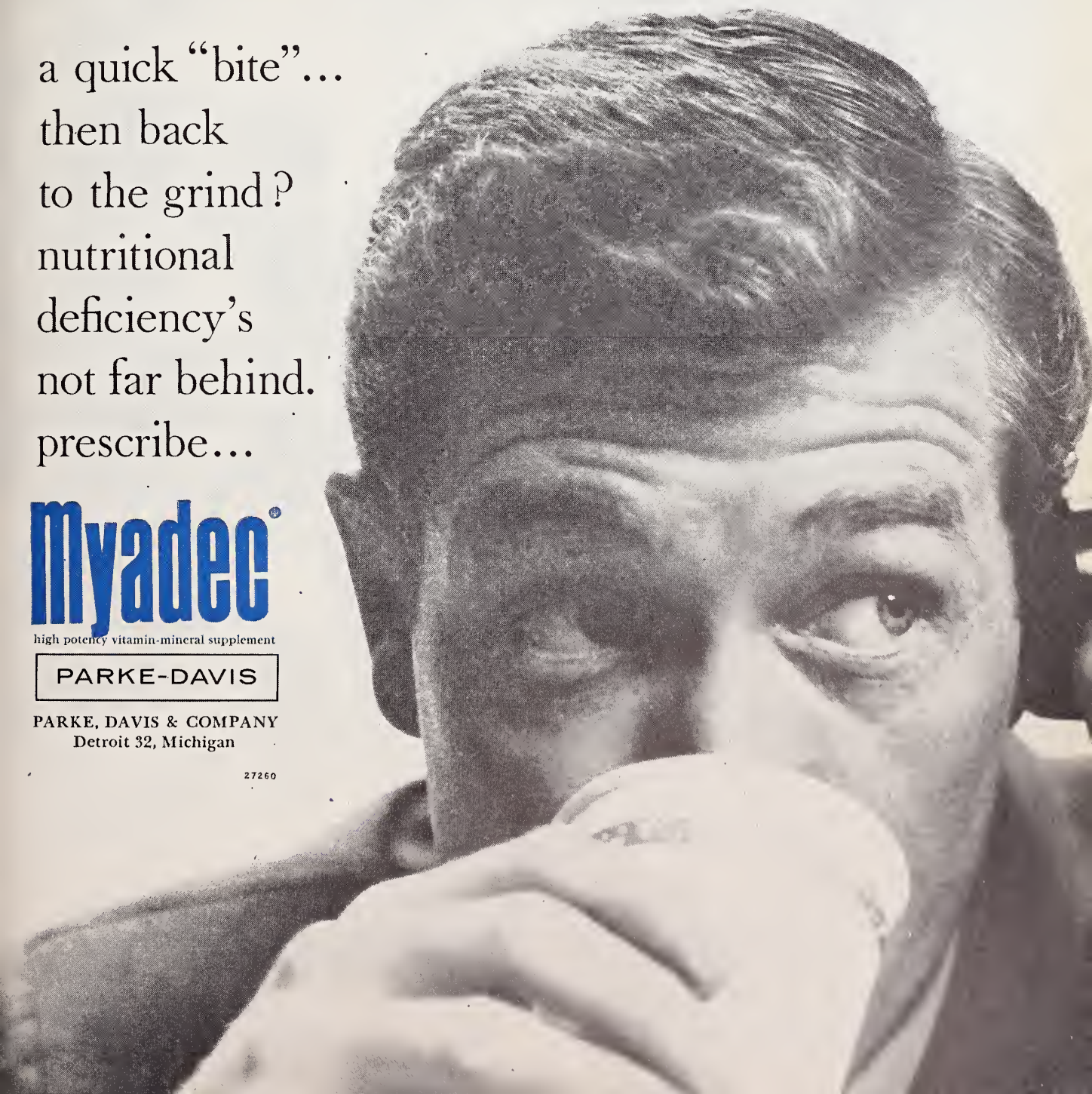
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Editorial

MEDICAL DETECTIVES ACT TO CUT INFANT DEATHS

A recent release from the American Medical Association outlines a campaign to mobilize state health departments, hospitals, obstetricians, pediatricians and general practitioners of the Rocky Mountain area in a nationwide program to reduce infant mortality. This medium was launched by the American Medical Association at a meeting in Denver's Hilton Hotel. The purpose of this meeting was to review and to put into working form the new A.M.A. "Guide for the Study of Perinatal Mortality and Morbidity" well in advance of the next baby boom, which is expected in the early 1970's when the large number of babies born during World War II reach maturity. Perinatal mortality is defined as "those deaths of fetuses and newborn infants occurring before, during, and soon after birth," while perinatal morbidity is defined as a pathological condition or conditions observed in the fetus or infant during the perinatal period.

The A.M.A. perinatal code sheet to be used is designed to be as simple to fill out as possible and still lend itself to modern statistical analytic methods. This form, as it is conceived and

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

designed, would require very little effort on the part of the attending or delivering physician, and the attending physician or pediatrician of the baby. However, it will provide a wealth of material that is of extreme importance in the assessment of perinatal mortality and morbidity, a subject that has too long been neglected, particularly in the Southwest area. Some interest has been developed in the State of Arizona in this problem; and at one of the larger hospitals in Phoenix during the past three years, we have held annual conferences on the subject of perinatal mortality and morbidity, a joint meeting held with obstetricians and pediatricians in attendance. All of us interested in this problem have been, to put it mildly, shocked by the lack of information that is available to us in the assessment of causes of prenatal and neonatal deaths. I feel sure that every conscientious practitioner, obstetrician and pediatrician who has to do with the delivery and care of newborn infants will give this new program of the American Medical Association the utmost consideration and take the little time that is necessary to fill out the perinatal code sheet. This information will then be assessed at a later date at a regional center, and it is hoped that the tabulated data will serve to promote further study and research into problem areas that will become apparent to local committees utilizing the service.

R.F.W.

ARIZONA CLINICAL CONFERENCE

The clinicians of Arizona have an excellent opportunity to develop a mid-year clinical conference.

Elsewhere in this issue are carried the programs and faculties of two excellent meetings to be held in this state during January. The Heart Association and the Cancer Society are to be commended for the quality of programs they are producing.

There should be a coordination of these programs so that this excellent clinical material could be covered by all who desire. A single conference would eliminate the necessity for taking off from practice two long weekends within a period of a month.

D.W.N.

PROMOTE THE STUDY OF MEDICINE

As the years have passed since the termination of World War II, the number of students applying for vacancies in our medical schools has decreased. And in many instances the quality of the applicants is not of the desired level.

The Arizona Medical Association is sponsoring medical student programs in both Phoenix and Tucson to encourage more and capable students to enter the profession of medicine. The members of ARMA should attend and assist in these sessions to be held on the campus of both the U. of A. and A. S. U.

It would seem that this could be done with very little difficulty, for medicine certainly has the four prime requisites for a desirable profession: A well-qualified physician can contribute much to society; his work can be enjoyed; it receives professional recognition; and there is an adequate financial return.

D.W.N.

FALL-OUT SHELTERS — YES OR NO

Your attention is drawn to the report published by the Stanford Research Institute and the reprint by Robert B. Meyner. These two

viewpoints are in marked contrast.

Mr. Meyner's ideal goal would be the desirable one. However, the statements that he quotes as fact must either be in error or the Stanford Research Institute has not correctly compiled its statistics.

We would like to see Mr. Meyner's goal succeed. But living in a world where the prime forces opposing us are led by Khrushchev and Mao Tze-tung, we can only encourage that until that ideal day comes we will be forced to rely to a great degree upon SAC, to quote Mr. Meyner, "an organization strong enough to prevent aggression," and to obtain our ray of hope from the analysis of the problem as given by the Stanford Research Institute. (Editors Note).

KREBIOZEN

With some regularity a brochure advocating the great merits of Krebiozen is thrust upon the desk of each of us. The Cancer Society becomes alarmed and our own cancer committee disturbed by this promotional activity.

No untoward effects have been proven, and maybe this drug has a place in the "psychotherapy" of cancer. No unprejudiced investigator has been permitted to do a satisfactory control study of it.

D.W.N.

THE HORNET'S NEST

The Editorial pages of the September issue of "ARIZONA MEDICINE" contained a peculiar hodge-podge of emotionalism and incompletely evaluated opinions, but with an undercurrent of good intentions.

"Desire it or not, there is a gradual socialization of the U. S.," reads one editorial. Being convinced of what he writes, the opinion is then expressed that medicine can go it alone — "This can be prevented in medicine by governing ourselves." Two pages back we were reading an extract from the 1959 president of the New York County Medical Society:

> "It is too late for mere delaying tactics. American doctors may find themselves helpless by-standers in a course of events they have done nothing to shape unless they are willing to accept the true dimension of the nation's health needs and dissatisfactions."

We cannot "prevent" the trend of events anymore than King Canute could stop the tides. Another editorial in the same issue of our journal urges "We must find a way to educate the public as to our purpose as based on historical facts." This reference to "historical facts" betrays a somewhat limited view of our purpose as a profession. The entire history of medicine is a gradual adjustment of our profession to social trends. A quotation from "THE MIRAGE OF HEALTH" by Rene J. Dubos may give a little needed perspective:

> "Elements of direct fear also contributed to the development of social medicine. The outbreaks of cholera had a prodigious effect. Eugene Sue's novel The Wandering Jew (1844-1845) and Victor Hugo's poem Chastisements (1853) gave hair-raising accounts of the panic that they caused. In America cholera and, particularly, yellow fever in 1878 stimulated the creation of a national board of health and then of special laboratories supported by public funds for the control of water supplies. This step led to the granting of ever-increasing power to health departments for the regulation of community life. Another phase of the socialization of medicine was ushered in by fear of tuberculosis. It was a short step from the demonstration that the tuberculous individual could infect his fellow men, and that tuberculosis was therefore a social disease, to the use of public funds for the control of the disease and even for the care of the patient. The trend toward socialization of medicine is still continuing, although there is reluctance in designating the process by this name. In one form or another, many aspects of communal activity are regulated, restricted, or prevented because of their effects on public health. Strict regulations will certainly extend to the control of industrial smokes and

exhausts of motorcars, as soon as the public becomes emotionally convinced that these nuisances constitute health hazards. All modern states, whatever their political complexion, recognize that the maintenance of health is as much a government responsibility as is education."*

It is not enlightened thinking to attempt to "prevent" these major historical steps. However, when we see that conditions over which we, at the moment, have little control, are causing the river to overflow its banks and to cut new stream beds, we can plan and encourage the flow into productive channels. If we are proud of our freedom and proud of the capabilities of our progressive capitalistic society, we must build the future with an enlightened evaluation of the present and an intelligent knowledge of the past. If Great Britain's medical program has jumped the gun on history, it is up to us to evaluate their errors, not in a spirit of glee or rancor, but in a spirit of constructive effort.

Our Editor is therefore to be complimented on urging the Arizona Medical Association to evaluate such plans as the Pennsylvania Medical Society Program or the Kern County Medical Society Program in California.

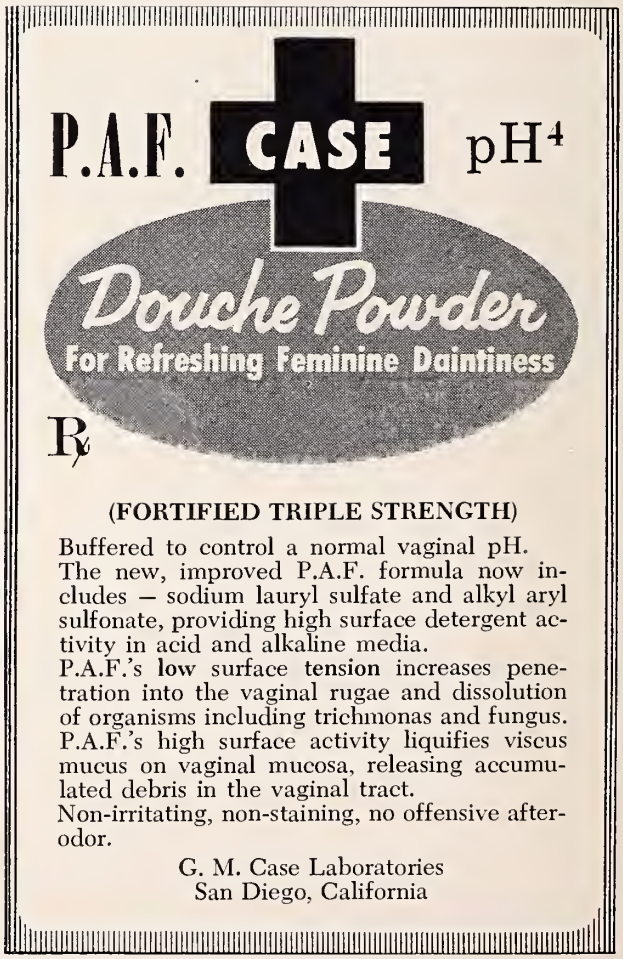
It is a strange anachronism, this cry against Federal "interference" in our medical life. We drive on Federal highways, we use the Federal mails, we rely on our Federal (National) armed forces, we are proud of our Federal parks. Let us not forget that, in matters of our citizens' health and welfare, if Federal aid were to be suddenly withdrawn, our nation's physical welfare would collapse almost overnight. And, if the cry for old age welfare is taken up by political groups, let us not risk our name by apparently dubious propaganda gimmicks such as a recently released A.M.A. survey which "emphatically proves that the majority of Americans over 65 are capably financing their own health care and prefer to do it on their own, without government intervention."* It would behoove us to avoid the cheap tricks if we are genuinely concerned with the integrity of our profession.

A.J.B.

*Cited by permission of the author and of the publisher, from "THE MIRAGE OF HEALTH" by Rene Dubos, Harper & Brothers, 1959 ($4.00).

*See Section on Reprints: "Science and Politics: A.M.A. Attacked for Use of Disputed Survey in 'Medicare' Lobbying," from "SCIENCE," Sept. 2nd, 1960.

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Topics of Current Medical Interest

Arizona Poisoning Control Information Center

RENAL ALKALINIZATION IN THE TREATMENT OF CERTAIN POISONINGS

Salicylate Poisoning: Use of Sodium Bicarbonate

Accidental poisoning in children involving aspirin and other salicylates is very common. For example, during the nineteen-month period from January, 1959 to August, 1960, 443 cases of poisoning from aspirin were reported by the 19 Arizona Poisoning Control Treatment Centers. Most of these cases involved children in the one-to-four-year-old age group.

No specific antidote is available for treating salicylate poisoning. Following ingestion of salicylates, only 20 per cent of the salicyl radical is degraded in the body and no means of accelerating this process is known(1). As a result, there has been a search for a simple and effective method of enhancing removal of salicylate from the blood in the treatment of salicylism. Although it has long been known that urinary salicylate excretion is enhanced in the presence of an alkaline urine(2), until recently, there has been a reluctance to apply this phenomenon therapeutically in the treatment of salicylate poisoning. The use of an agent such as sodium bicarbonate to produce an alkaline urine has been condemned because of the potential danger of aggravating the alkalosis sometimes associated with salicylism. It is known that a profound alkalosis could result in tetany, encephalopathy, or death(3). However, several reports(1,3-6) in the literature indicate that the infant or young child poisoned with salicylate usually displays a metabolic acidosis at the time of treatment and that the serum pH usually is normal or actually decreased within a few hours following ingestion of salicylate. On this basis, recently, a number of investigators(1,3,7,8) have used or recommended the use of sodium bicarbonate in the early management of salicylism occurring in young children.

Two groups of investigators, Whitten *et al.*(1)

and Oliver and Dyer(2), have reported the results of this therapy in 39 young children with acute salicylism resulting from the accidental ingestion of salicylates. These workers found that, following intravenous administration of sodium bicarbonate in their patients, the rate of elimination of salicylate from the body and the coincident decrease in plasma salicylate levels achieved by this therapy compared favorably with values reported by others when exchange transfusion and hemodialysis were employed. It was found that signs of salicylism (e.g. severe hyperpnea) subsided more rapidly in these patients than in patients with salicylism who were not treated with sodium bicarbonate(3). As an example of the dosage employed, Oliver and Dyer(3) administered 3.5 - 5.0 mEq of sodium bicarbonate per kg intravenously during the initial four hours of treatment. In a few cases, it was found necessary to repeat this dose when the urine pH did not exceed 6.9 after four hours. In no case were more than two doses of sodium bicarbonate administered. Because of the tendency for serum potassium to fall in these patients, especially during sodium loading, each received intravenous fluids containing potassium. The amount of potassium administered approximated 3.0 - 5.0 mEq per kg during a 24-hour period. Complications, such as convulsions, tremors, gastric dilatation, asthena, prolonged vomiting, or edema, were not observed in the bicarbonate-treated patients(3). It should be noted that all of the patients involved in these studies were young children with acute salicylism and that they were treated rather soon after ingestion of salicylates. Oliver and Dyer(3) emphasize that bicarbonate therapy in salicylate poisoning should be limited to children less than four years of age, since respiratory alkalosis is the principal acid-base disturbance consequent to salicylism in older children and adults.

Salicylate Poisoning: Use of Acetazoleamide

It is well known that inhibition of the enzyme carbonic anhydrase by a chemical agent such as acetazoleamide will lead to alkalinization of the urine. Several investigators(6-9) have tested the efficacy of acetazoleamide in the treatment of salicylate poisoning. All of these workers agree that following administration of this agent there results a prompt rise in urinary pH with a concomitant increase in urinary excretion of salicylate. On the other hand, some of these investigators(3,8,9) report that the use of acetazoleamide in patients with salicylism is not without danger. It has been pointed out that this agent is capable of producing a systemic metabolic acidosis and that there is a risk of accentuating the acidosis which is present in small children with salicylism(3,8). Schwartz and co-workers(9) have reported that complications including convulsions and papillo-edema occurred in two of their patients with salicylism who were treated with acetazoleamide. From their studies, they concluded that "the combination of salicylate intoxication and administration of acetazoleamide may not be entirely benign."

Kaplan and del Carmen(8), who conducted animal studies using rats that received toxic doses of sodium salicylate, demonstrated a much higher mortality in rats treated with acetazoleamide than in those animals administered sodium bicarbonate. Feuerstein *et al.*(6) have criticized this work from the standpoint of the large doses of salicylate employed in these studies. They point out that the high blood salicylate levels (250 - 300 mg/100 ml) attained in these animals are far in excess of values seen clinically. Further, they state that "experiments with rats may not be sufficiently comparable to salicylate poisoning encountered in humans to be relied upon for the selection of the best mode of therapy."

Feuerstein and co-workers(6) have recently reported the results of the treatment of 27 patients with salicylism by a regimen consisting of intramuscular acetazoleamide and intravenous fluids. From these studies, the authors maintain that the use of acetazoleamide provides a safe and effective means of facilitating excretion of salicylate in salicylate poisoning. However, these workers point out that until more definite experimental evidence is available, this mode of therapy should be conducted under the close supervision of a physician skilled in handling problems of fluid and electrolyte balance. One would be compelled to agree with the conclusion made by these investigators, namely, that the conflicting evidence in the literature concerning the use of acetazoleamide in the treatment of salicylism suggests caution in the indiscriminate application of this type of therapy.

Barbiturate Poisoning

It is of interest to note the recent report(10) of studies in France in which the effect of alkalinization of the urine in barbiturate poisoning was determined. Experimental studies in dogs revealed that variations of the pH of the plasma

modified the distribution of barbiturates in the body. Respiratory acidosis caused an accumulation of barbiturates in the cells, whereas alkalosis resulted in a diminution of barbiturate content, notably in nerve cells. Alkalinization of the urine was found to increase markedly the renal excretion of phenobarbital. This excretion due to renal alkalinzation was shown to exceed that amount of phenobarbital excreted as a result of polyuria. Seventy-five patients with severe coma due to barbiturate poisoning were treated by alkalinzation of the plasma and urine. This treatment was found effective in reducing the duration of coma in these patients. The results of these studies should stimulate further investigation of the efficacy of this therapy in the treatment of barbiturate poisoning.

STATISTICS OF 63 POISONING CASES IN ARIZONA DURING JULY 1960

AGE:

84.1% involved under 5 year age group	(53)
3.2% involved 6 to 15 year age group	(2)
3.2% involved 16 to 30 year age group	(2)
4.8% involved 31 to 45 year age group	(3)
3.2% involved over 40 year age group	(2)
1.5% were not reported	(1)

NATURE OF INCIDENT:

93.7% accidental	(59)
6.3% intentional	(4)

TIME OF DAY:

31.8% occurred between 6 a.m. and noon	(20)
28.6% occurred between noon and 6 p.m.	(18)
11.1% occurred between 6 p.m. and midnight	(7)
1.5% occurred between midnight and 6 a.m.	(1)
27.0% were not reported	(17)

OUTCOME:

100% recovery	(63)
0% fatal	(0)

CAUSATIVE AGENTS:

Internal Medicines	**Number**	**Percent**
Aspirin	19	30.2
Other Analgesics	1	1.5
Barbiturates	1	1.5
Antihistamines	1	1.5
Laxatives	2	3.2
Cough Medicine	0	0.0
Tranquilizers	0	0.0
Others	9	14.3
Subtotal	33	52.2
External Medicines		
Liniment	0	0.0
Antiseptics	1	1.5
Others	3	4.8
Subtotal	4	6.3
Household Preparations		
Soaps, Detergents, etc.	2	3.2
Disinfectants	0	0.0
Bleach	5	8.0
Lye, corrosives, drain cleaners	1	1.5
Furniture and floor polish	0	0.0
Subtotal	8	12.7
Petroleum Distillates		
Kerosene	2	3.2
Gasoline	0	0.0
Others	2	3.2
Subtotal	4	6.4
Cosmetics	3	4.8
Pesticides		
Insecticides	2	3.2
Rodenticides	0	0.0
Others	2	3.2
Subtotal	4	6.4
Paints, Varnishes, Solvents, etc.	3	4.8
Plants	3	4.8
Miscellaneous	1	1.5
Unspecified	0	0.0
TOTAL	63	100.0

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MEDICAL COURT CASES

by Howard Newcomb Morse*

Vonault vs. O'Rourke

Supreme Court of Montana

33 P. 2d 535

Miss Alice Vonault consulted Dr. L. L. O'Rourke, a physician and surgeon, as to her physieal eondition and was advised by him that she was afflieted with fibroid tumor and diseased appendix. Dr. O'Rourke recommended an operation for her relief. It was agreed that the operation should be performed the next morning. Dr. O'Rourke told Miss Vonault to arrange for a room at St. Ann's Hospital, and that he would arrange for an operating room. The suggested arrangements were carried into effect and Miss Vonault entered the hospital that evening.

The operation occurred between the hours of 8 and 10:50 a.m. Those present at the operation were Dr. O'Rourke, who performed the operation, Dr. John H. Noonan, who assisted, Dr. T. J. Kargican, who administered the anesthetic, Miss Margaret Casy, then a student nurse, who acted as "sponge nurse," two other nurses, one of whom acted as instrument nurse, and the other who assisted in various ways, and a "sister" who had an official position with the hospital. Mrs. Lizzie Reviere, a sister of Miss Vonault, went to the operating room with her and remained near the doorway during the operation; she saw a part of the operation but was not near enough to observe it all.

Miss Vonault was prepared and dressed for the operation by a hospital nurse and the doctors. The operative field was cleansed and sterilized, and the patient was dressed in a "surgical gown" such as is ordinarily used in the circumstances. The gown opened at the back and came up to about the region of the collar bone. Over the gown a sheet was draped from the neck down; a towel folded in three folds was placed over the patient's chest. An ether mask was placed above the face.

When the patient was first placed on the operating table there was a pillow under her head; this was later removed and her head allowed to rest on the table on a plane with the shoulders. After she had been "surgieally anesthetized" by the use of ether her hands were brought up from her sides and folded upon her ehest. The surgical gown was brought up and folded over the arms and a drop sheet left on top. At about this stage of the proceedings the head of the operating table was lowered so that the patient was left in a "Trendelenburg position." The ether was dropped on the mask at a rate not faster than it evaporated. Dr. Kargican devoted his entire attention to the administration of the anesthetic and had nothing to do with the operation proper.

The operation was successful and the patient obtained the desired relief. All agreed as to the accuracy of the diagnosis and the beneficial result accomplished. At the eonclusion of the operation Miss Vonault was returned to the hospital room and there delivered into the charge of Miss Johannah Driscoll, a graduate registered nurse. The nurse kept what is known as a chart or nurse's reeord. This record disclosed that Miss Vonault was returned to her room from the operating table at 10:50 a.m.

The nurse immediately began to minister to the needs of her patient, and at 11 a.m. administered a salt solution. This solution was injected into the axillae just under the arms. The skin was perforated by two needles, each on an extension of a forked tube running from the receptacle in which the solution was contained. The chart denominated this a normal salt solution and designated the quantity as a "thousand ec." The solution was fed into the system slowly through the needles, and the operation consumed some time.

At 11:15 a.m. Dr. O'Rourke visited the room and observed the patient. At that time Miss Vonault had not regained consciousness and probably did not do so until after the injection had been completed; at least the patient had no knowledge or recollection of such an injection. At some time subsequent to the recovery of consciousness Miss Vonault felt a burning sensation on her chest, and upon examination it was found

*Counsellor at Law of the Supreme Court of the United States of America.

that she had a large blister which she described as about an inch thick and two inches long and an inch wide. The blister or burn caused Miss Vonault great pain. It filled with pus and gave out a disagreeable odor. In healing it left an unsightly scar. The injury burned and annoyed her so that she could not sleep.

Mis Vonault brought an action in the Third Judicial District Court of Deer Lodge County, Montana, against Dr. O'Rourke to recover damages for injury resulting from alleged malpractice. During the course of the trial Miss Vonault's counsel, while cross-examining Dr. O'Rourke, asked the following question: "And that you also stated that she (Miss Vonault) had a burn and had a scar and that you carried insurance to protect you against that kind of a proposition and you thought she should be compensated for it?" Counsel for Dr. O'Rourke made the following objection: "We object to this as improper cross-examination and we assign the same as misconduct on the part of counsel and prejudicial to the rights of the defendant." The court sustained the objection and ordered the question stricken. A jury returned a verdict for Miss Vonault in the sum of $2,200 and the court entered judgment accordingly. Dr. O'Rourke appealed, vigorously contending that error was committed by the injection of the subject of insurance into the case.

This contention was upheld by the Supreme Court of Montana, which reversed the decision of the court below. The Supreme Court declared: " . . . in actions for personal injuries or death the fact that the defendant is protected by indemnity insurance against liability for damages cannot, directly or indirectly, be injected into the case by evidence, argument or remarks, so as to influence the jury, and the violation thereof is ordinarily held to be reversible error."

THE HEALTH OF PIMA COUNTY

The Health Officer of Pima County, Dr. Esther M. Closson, has recently released her Annual Report for 1959 for circulation to the public. It is apparent that the financial resources of the Department have expanded considerably during the five-year period between 1954 and 1959. The budget for 1954-55 was $138,911.00, while that of the fiscal year 1958-59 was $240,-274.00. In these five years the physical space allotted to the Health Department had almost doubled.

As is well known, the processing of vital statistics is a most important function of any Health Department. The population growth of the Tucson area is pointed up by the fact that in 1920 only 687 births were reported, while in 1959 the number of births were counted as 6,597. For the same years, the deaths were recorded respectively as 806 and 2,025.

The most sensitive index of the sanitary state of a community is generally regarded as the level of infant mortality. Some 30 years ago at the time when the Pima County Health Department was first organized, this rate of deaths among infants less than one year of age was quite high. Figures for the whole county are not available, but for Tucson and vicinity in 1930 the infant mortality rate was 138, i.e., 138 deaths per 1000 live births during that year. The current level is 28. This figure is only slightly above the average figure for the United States as a whole. It is felt that the well baby clinics and the home visits of public health nurses have contributed much to hasten this marked decline in infant mortality.

During 1959 completely new and modern x-ray equipment was installed at the Health Department. The taking and reading of chest x-rays is an important activity of the staff, as indicated by the number of examinations — 16,125 during 1959. The purpose of these tests is to check the health of food handlers, school teachers, baby sitters, barbers, contacts of tuberculosis cases and many others.

As tuberculosis is still the main communicable disease prevalent in Arizona, a considerable proportion of the Department's activities was devoted to that problem. Aided by the provisions of the 1955 Tuberculosis Control Act and by grants from the St. Lukes-in-the-Desert Board of Lady Visitors and from the Pima County Tuberculosis and Health Association, a strong effort was made to bring the register of tuberculosis cases up to date and to intensify efforts to bring all cases of tuberculosis under supervision. Dr. William Ure was appointed as tuberculosis

consultant to the Department and has done most useful service in strengthening the tuberculosis control program.

In the poliomyelitis immunization program, the number of inoculations regretably declined over those of previous years. However, a total of 14,452 injections of vaccine were administered under auspices of the Department during 1959.

Two groups of employees rendered especially valuable service as is fully set forth in the report. 1) The public health nurses, who in addition to staffing the pre-natal, well baby and other special clinics, carry out 8-9,000 home visits over the period of the year. 2) The sanitarians, who are responsible for supervising the purity of the water, milk and food supplies of the community, as well as for many other matters of sanitary importance.

Space does not permit discussion of the many additional services that are carried out by the Pima County Health Department, but perhaps attention should be called to the responsibility of the Department for school health work in the county and parochial schools. This includes immunizations and examination for physical defects.

BOOK REVIEWS

YOUR CHILD'S CARE, 1001 QUESTIONS AND ANSWERS*

This mother's guide to happy and healthy babies, written by two experienced practicing and teaching pediatricians, is well written, concise, and in addition to the usual subjects found in a manual for mothers of newborn babies and older children, encompasses a spectrum of subjects of pediatric interest not usually found in such a "home medical text."

The over 1001 questions and answers included deal with such basic topics as the Rh factor, the newborn baby formula, breast feeding, allergies, heart disease, contagious diseases, behavior problems. Also discussed are new advances and discoveries in pediatrics — new drugs for better treatment of many childhood diseases, and new methods and techniques in the care and treatment of congenital heart disease, tuberculosis and other diseases. Of particular interest to the practicing pediatrician and the general practitioner who sees a number of children in his practice will be the manner in which the questions on sex education, the handicapped child, speech disorders, the deaf child, toys and books, baby sitters, and even discussions of movies, radio, comic books and TV, and the problem of nursery school and camp are handled.

These are problems that confront every practitioner who has to do with children and their parents. They are well discussed, but not belabored, in this concisely written book. The book is written in plain language that the mother of average education can understand without difficulty, but the subjects are not gone into the point where unnecessary doubts and alarms are raised. It is consistently written in a fashion that would acquaint the mother or parent of the child with the general nature of the disorder but would encourage the mother to seek medical help for definitive treatment. The book should be well accepted by the average mother and could equally well serve as a reference in the doctor's library.

Doubleday & Company

*Harry R. Litchfield, M.D. and Leon H. Dembo, M.D.

RUDOLPH MATAS*

The legendary career of Dr. Matas along with his extraordinary contributions are covered at great length in this volume. It is only a shame that this biography never permits us to understand and see Dr. Matas as the extraordinary man he was. For the continued light of the halo makes it difficult to see and understand him as only a mortal.

Doubleday & Company, $5.95

*Isidore Cohn, M.D., with Hermann B. Deutsch.

Reprints

Science and Politics: AMA Attacked for Use of Disputed Survey in "Medicare" Lobbying*

The American Medical Association, which found itself deeply involved in the Congressional fight over medical aid to the aged, last week was under attack for its ues of a survey of the aged presented before the fifth congress of the International Institute of Gerontologists held at San Francisco in mid-August.

A widely distributed AMA press release said the survey "emphatically proves that the great majority of Americans over 65 are capably financing their own health care and prefer to do it on their own, without government intervention." The release said that "90 per cent (of the sample) could think of no personal medieal needs that were not being taken care of," and that only "a relatively small percentage of those who said they did have medical needs attributed the failure to meet thesc needs to lack of money." The release credited James W. Wiggins and Helmut Schoeck of Emory University as director and associate director of the study and listed 16 university sociologists from schools throughout the country as participating in the study.

The AMA endorsement and interpretation of the survey were picked up by newspapers across the country. Some papers used it as the basis for editorials opposing any large-scale federal plan for aid to the aged.

Comments on the Survey

Last week Senators Eugene McCarthy (D-Minn.) and Pat McNamara (D-Mich.) began inserting in the Congressional Record comments on the survey from the "participating" sociologists and from officials of the congress on gerontology. Here are some excerpts: From Noel Gist of the University of Missouri: "I participated in a study of aging to the extent of supervising the interviewing of a sample of rural residents in Missouri. . . . The news release, by the use of my name . . . leaves the impression that I endorse the conclusions presented. . . . I do nothing of the sort. . . . It was quite obvious to me that the questionnaire sent to us was a very poor

*The above article is reprinted from Science by permission (Science 132:604-605, Sept. 2, 1960).

one, and seemed to be devised by amateurs in research. But since we agreed to do the interviewing for the project we completed the assignment."

From Clark Tibbits, chairman of the Executive Committee for the Americas, International Association of Gerontology: "I was in the audience when Professor Wiggins made his presentation. I was astonished at the data and conclusions reported. The basic figures on income, assets, and health status differ by as much as 100 per cent from those reported by other studies during the past decade and from figures available through such standard sources as the Bureau of the Census, the Current Population Survey, and the National Health Survey."

From Wayne Thompson, of Cornell, a discussant of the paper: "I did not see a copy of the final paper until the day before it was read. . . . I must report that I was appalled to read the paper, which I found to be of such poor quality of scientific research technique and writing. Indeed, I regretted at that point that I had been so naive as to have accepted the paper without having seen it in advance, especially since it would be presented before an audience of internationally known scientists who might think of this as representing American sociology. . . . When the paper was actually presented, there was an immediate reaction on the part of the audience, attacking its unscientific character, and the ease with which Wiggins and Schoeck jumped to untenable conclusions. The survey was badly designed, poorly conceived and completely misleading. Not a single scientist present at the meeting rose to support either Mr. Wiggins or his paper."

The critics suggested that the questionnaire had been drawn in a way that encouraged responses that would fit the preconceptions of the planners, a complaint that seemed to apply to at least the one question quoted in the news release. The multiple choice question was apparently intended to discover what the aged thought should be done to make medical coverage more easily available to them, but it did not list as an alternative the widely debated plan to add medical coverage to Social Security. "This (response)," said the official AMA interpretation, "demonstrates that the vast majority of our older citizens favor voluntary programs and that only 10 per cent or so support compulsory plans."

Defense of the Survey

The AMA release noted that the survey was "based on extended interviews with 1500 non-institutional persons 65 years of age and over . . . by trained interviewers under the supervision of professional sociologists representing more than a dozen well-known American universities and colleges." The survey critics said that in addition to aged persons in hospitals, homes for the aged, and other institutions, the survey left out all non-whites and all people on old age assistance. One of the participating sociologists said she had been instructed to interview no one living in an apartment, thus eliminating tenement dwellers from at least this part of the sample. In general, the critics suggested the sample had been biased against those who were most likely to be having difficulty meeting medical expenses.

In defense of the paper an AMA spokesman emphasized that the survey was designed by Wiggins as a study of the "normal" segment of the aged population. Wiggins made this point in the course of the paper. But neither the title of the paper ("A Profile of the Aging: USA") nor the AMA press release made clear that the survey was less than a study of the aging population as a whole. There was no mention of the "normal" idea in the press release, and no precise definition of what Wiggins regarded as "normal" in the paper itself.

The survey was financed by a $20,000 grant from the Foundation for Voluntary Welfare. The foundation is a subsidiary of the William Volker Fund, which an AMA spokesman described as having a "conservative outlook." Wiggins is an unpaid consultant to the AMA's medical economics department.

THE CRUEL DECEPTION OF CIVILIAN DEFENSE*

ROBERT B. MEYNER

One of the questions frequently put to me has to do with steps I ought to take now in our state to protect our people in event of war. I am

asked, for example, whether I will go before the state legislature with a plan to build a vast system of underground shelters, or recommend that individuals start digging deep cellars of their own.

If we were living in 1939 or even in 1914, my answer would be easy. I would start all the machinery turning in New Jersey as fast as I could to guard against attack from the air. I would most certainly recommend underground shelters.

But were are not living in 1914 or 1939. This is 1960, the age of nuclear weapons and radioactive contamination. And the more you study the nature of these new weapons, the more you realize that going underground is no answer. Suppose we take my own city of Newark, for example. It is a fair-sized American city, one large enough and important enough to invite enemy attack.

Now, if I could be sure that an enemy would plan to drop a bomb of the size that was exploded over Hiroshima, I would recommend building an effective system of underground shelters. But the Hiroshima bomb was a kiloton bomb. That is, it had a destructive force measured in terms of thousands of tons of TNT. The bombs that will be used against cities in the next war will not be kiloton bombs but megaton bombs. They will contain the equivalent of millions of tons of TNT.

It would be unrealistic to assume that these bombs will not be used in the event of war.

The basic purpose in modern warfare is to kill an entire city. Today, one 20-megaton bomb contains more destructive power than all the bombs that were exploded in World War II.

If a city like San Francisco or Newark were to be hit by a few megaton nuclear bombs, everything in the civilian defense handbook would go out the window.

The area of total or near-total destruction from each megaton blast would be upward of 20 square miles. Most of the underground shelters in the area would be sealed in under a mountain of radioactive rubble. But equally devastating would be the fire, spreading out from the center with jet plane speed in all directions.

Meanwhile, a canopy of radioactivity from these high fission-fusion blasts would contaminate an area covering hundreds of square miles. The problem would be intensified because the dirt and the rubble would carry the kind of radioactivity that would retain its killing power not for hours but for months, and, in some cases, for years.

Now, let us suppose that people could come up out of the shelters. What kind of world would they come up to? What would they use for air? What would they use for food? What would they use for hospitals? What would they use for streets? What would they use for people?

Remember this: any enemy bent on killing a city is not going to allow a puny instrument like an underground shelter to slow him up. All he has to do is pick out of his nuclear rack a few bombs with a high megaton rating and dispatch three or four of them — or maybe even 10 or 20 for the extra large cities.

That is why I say we are fostering a cruel deception on the American people if we try to persude them that they can have civilian defense through underground shelters in the next war.

I defy anyone to demonstrate that he can provide genuine or even reasonable protection through such shelters. And the reason he can't is that he doesn't know whether he is going to be hit with one bomb or five or six or 16 — or even whether it will be kilotons or megatons.

I believe I can best serve the people of my state by making clear to them that there is one and only one defense against a nuclear war — and that is peace. Either we create a situation of safety, security, and sanity for the human race in this world, or we destroy the precarious conditions that make life on this planet possible.

Instead of spending the $150 billion or $200 billion that would be required for a national network of underground shelters, let us put just a fraction of that money and work into a massive effort to make our world safe for human habitation — while there is yet time.

We ought now to be talking about building 200 million pre-fabricated homes for the homeless people of Asia and Africa — instead of bemusing ourselves with the cruel nonsense about underground shelters.

We ought to be forging links with other peoples instead of forging iron doors to deep cellars. Our ties to other peoples — the good will we can earn, the support we can justify for world leadership — these will contribute far more to our safety and peace of mind than the holes we can jump into when it is too late.

If we are serious when we say we want peace,

then there is only one way to get it. And that is by creating in the world an organization strong enough to prevent aggression, strong enough to carry out effective arms control, strong enough to deal with basic threats to the peace, strong enough to eliminate some of the tensions, strong enough to punish individual violators — strong enough, in short, to create a rule of law in the world instead of the rule of force.

The President has said he believes in world law. But I have not heard anyone in the Administration propose the specific strengthening measures neeesary to give the United Nations the effective power that world law requires. I have not heard anyone in the Administration propose the kind of revision conference that has as its aim the transformation of the United Nations into an authority that could create a situation of safety and sanity for the world's peoples.

From time to time, I hear it said that there are no major issues in 1960. What do people mean when they say there are no major issues? We have the biggest issue in the world to think about. That issue is peace. It can only be peace — real peace, that is.

By real peace, I mean not just a brief siesta between crisis and calamity. I mean a peace that sticks and a peace that works. Sueh a peace requires more than special deals, over or under the table. It is the kind of peace that must make sense to the human spirit and the human intelligenee.

One of the main weaknesses in the present approach to peace is that both the Americans and the Russians are giving the world the impression that war or peace is their own private business, and that our own interests are the only ones that count. The majority of the humans on this planet happen not to live in either the United States or the Soviet Union. What we do concerns them. Yet we debate issues as though no one else in the world existed.

The cause of human life on earth has never been more precarious or fragile than it is at this moment. Within a year — two years at the latest — the existence of man will be staked on a board of pushbuttons. The means are now at hand for eliminating life several times over. Soon these means will be fitted into the special delivery systems. The United States and the Soviet Union will be some 13 minutes apart on the route of the ICBMs.

Only the other day, we heard prominent military men argue that the security of the United States depended on having constantly in the air several hundred jet bombers fully loaded with nuclear bombs. What is the step beyond that? It takes no particular feat of the imagination to recognize that the next argument will be to drop the bombs on the other fellow before he drops them on us.

If we really want security in today's world, there is only one way to get it. And that is to make sure that no one has the means of annihilating anyone else. This brings us to the question of arms control. I contend that our safety today depends on the workable control of force rather than the pursuit of foree. But is workable control possible?

There is only one way to find out. That is by declaring it to be the fundamental objective of our foreign policy — and not only to say it but mean it. President Eisenhower has said it, but does his own Administration believe it or mean it? Does the Atomic Energy Commissioin believe it?

It is going to be difficult enough to get the Russians to agree on arms eontrol with inspection and enforcement, but if our own government is ambling all over the place on the issue, what hope is there?

Premier Khrushchev has finally said that the Soviet Union would be willing to accept inspection and enforcement as part of a comprehensive plan for arms control. But he hasn't said what he means by this; he hasn't said what he means by inspection; he hasn't said what he means by enforcement.

The reason Khrushchev wants peace is clear. He doesn't think suicide in a nuclear war is the proper vehicle for advancing the cause of Communism. I think it is equally true that democracy canot flourish through suicide.

But if there is not to be mutual suicide, we have to figure out a structure for peace that really works. Khrushchev says he is serious about agreeing to arms control with inspection. Let's find out whether he really means business.

Let's test the Russians instead of testing the bombs. Now that the door has been partially opened we ought to be pressing against it with all the weight we can command. We ought to keep after Khrushchev and not let up until the world has had the fullest possible airing of just

what he means by inspection and enforcement, and just what it is that we propose. In short, it is our turn to speak.

The question of control, quite literally, is a matter of life or death for our nation. This is the direction we have to take if our foreign policy is to work. This must be our thrust if we are to serve the cause of a just peace without freedom.

Yet this is precisely the time that the Administration chooses to talk about spreading nuclear weapons around to other nations. There is no point in negotiating over disarmament once the nuclear stockpiles become general.

When we created these cataclysmic weapons, we justified our policy by saying we were in a position to control them. What do we say now?

The President says that we will give them only to our friends. But the long history of nations shows that friends change. And even the best of friends sometimes disagree. How will it advance the cause of American security to increase the number of fuse points for a world nuclear explosion?

Here again some say there are no real issues. Of course there is a real issue. The issue is whether we understand what our age is all about, whether we have a view of man and human destiny, whether we can use human intelligence and the human spirit in the cause of a world made safe for people.

In short, the issue is whether we are equal to the needs of our civilization, and whether we can stand before the human community with the ideas that are literally large enough to embrace the world. If either party fails to make sense on this issue, it makes no sense on any issues.

There are two kinds of preparedness. One is the kind represented by the big bombs. If we are ever in a showdown on that level, God help us.

But there is also another kind of showdown looming ahead in the world — and it requires another kind of preparedness. This is the nonmilitary showdown. It will be determined by the side that has the most to say about human freedom and the making of a better and safer tomorrow for all peoples, and by the side that can earn and keep the respect and support of the overwhelming majority of the world's peoples.

*Reprinted from "THE PROGRESSIVE" (June 1960) by permission of the Editor and of the Author, Governor of New Jersey.

CIGARETTE SMOKING AND CARDIOVASCULAR DISEASES*

In 1956, the American Heart Association issued a statement on smoking and cardiovascular diseases. Among other things, this statement indicated that the available evidence at that time was not sufficient to justify conclusions concerning a cause and effect relationship between cigarette smoking and increased death rates from coronary heart disease. Since then, sufficient additional knowledge has been accumulated to warrant a new report on cigarette smoking and its possible relationship to cardiovascular diseases.

Up to the present, a number of medical studies have been made, nearly all demonstrating a statistical association between heavy cigarette smoking and mortality or morbidity from coronary heart disease. In these studies, death rates from coronary heart disease in middle-aged men were found to be from 50 to 150 per cent higher among heavy cigarette smokers than among those who do not smoke. This statistical association does not prove that heavy cigarette smoking causes coronary heart disease, but the data strongly suggest that heavy cigarette smoking may contribute to or accelerate the development of coronary heart disease or its complications.

*From CIRCULATION, Volume XXII, July 1960.

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Future Medical Meetings and Postgraduate Education

Arizona Chapter of the American College of Surgeons

You are invited to attend the Fall Clinical Congress of the Arizona Chapter of the American College of Surgeons, to be held at the new Tidelands Motel, Tucson, on November 17, 18, and 19, 1960.

Again this year the Congress will be open to all doctors of medicine interested in surgery. The following program has been arranged for your professional stimulation and personal enjoyment.

Warren H. Cole, M.D., FACS, Professor and Head, Department of Surgery, University of Illinois, College of Medicine, Chicago — "CANCER CHEMOTHERAPY," "STRICTURES OF THE COMMON DUCT."

George C. Morris, Jr., M.D., FACS, Assistant Professor of Surgery, Baylor University College of Medicine — "SURGICAL TREATMENT FOR ARTERIOSCLEROTIC DISEASE," "SURGICAL TREATMENT FOR RENAL HYPERTENSION."

J. George Moore, M.D., Associate Professor, Obstetrics & Gynecology, University of California, College of Medicine, Los Angeles — "ENDOMETRIOSIS," "HYSTERECTOMY, ABDOMINAL VS. VAGINAL."

J. Earle Estes, M.D., Internal Medicine, Phoenix, Arizona — "ATHEROSCLEROTIC ANEURYSMS AND OCCLUSIONS: SELECTION FOR ARTERIAL SURGERY."

Harold E. Crowe, Orthopedic Surgery, Los Angeles, California — "THE DIAGNOSIS OF PERSONAL INJURIES."

John W. Brown, M.D., Public Health Medical Officer, Epidemiology Section, California State Board of Health, Berkeley, California — "THE STAPH PROBLEM — A SURGICAL RESPONSIBILITY."

Daniel T. Cloud, M.D., Pediatric Surgery, Phoenix, Arizona — "SIMULATED SURGICAL BOWEL OBSTRUCTION IN CHILDREN."

Lt. Thomas Mildebrandt, Arizona Highway

Patrol, "A LAW ENFORCEMENT OFFICER LOOKS AT INTOXICATION AS AN ACCIDENT CAUSE."

Papers and clinical discussions will be held in the forenoon on Thursday, Friday, and Saturday. In the afternoon you may choose between cineclinics and golf. You will be the guest of the Arizona Chapter, ACS, at cocktails preceding the dinner Thursday evening.

For the banquet Thursday evening we are happy to announce that Senator Barry Goldwater will be the speaker. The suggested title for his presentation is "The Election — Its Effect Upon the Patient and the Doctor."

Mark your calendar now — ACS, Tucson, Tidelands, Nov. 17, 18, and 19.

Sincerely yours,
A. G. Wagner, M.D.
Program Chairman, Arizona Chapter, ACS

INTERNATIONAL COLLEGE OF SURGEONS SOUTHERN CALIFORNIA CHAPTER

The Third Western Sectional Meeting sponsored by the International College of Surgeons will be held in Las Vegas, Nevada, at the Riviera Hotel, November 20, 21 and 22, 1960.

INTERIM SESSION AMERICAN COLLEGE OF CHEST PHYSICIANS

Washington, D.C., November 26-28, 1960

The American College of Chest Physicians will hold its annual Interim Session at the Shoreham Hotel in Washington, D.C., this November. The scientific sessions will be held on Saturday and Sunday, November 26 and 27. Monday, November 28, will be reserved for administrative sessions. Dr. M. Jay Flipse, Miami, Florida, President of the College, will preside.

Dr. Joseph W. Peabody, Jr., Washington, D.C., and his committee, have arranged a scientific program of exceptional interest including Symposia on Congenital Bronchopulmonary Disorders, The Role of Steroid Therapy in Chest Diseases, and Current Therapeutic Issues.

A highlight of the program will be the Fireside Conferences on Sunday evening, November 27. In addition, there will be three round table luncheon discussions on both Saturday and on Sunday. These will feature prominent speakers discussing various aspects of heart and lung diseases.

AMA

American Medical Association
14th Clinical Meeting
November 28-December 1, 1960
Washington, D. C.
Headquarters: Sheraton-Park Hotel
Scientific Activities: National Guard Armory

ARIZONA HEART ASSOCIATION

Four noted heart specialists will be speakers at the Fourth Annual Cardiac Symposium to be held at the Arizona Biltmore Hotel in Phoenix next January 27 and 28.

Dr. Leslie B. Smith, Phoenix physician, and Chairman of the Committee on arrangements listed the following speakers for the two day sessions:

(1) Dr. Paul Dudley White of Boston, one of the best-known authorities on heart disease. A founder of the American Heart Association.

(2) Dr. E. Grey Dimond, Director of the Institute for Cardio-Pulmonary Diseases at Scripps Foundation at LaJolla, California, and President-elect of The American College of Cardiology.

(3) Dr. Robert E. Gross, Surgeon-in-Chief of the Children's Hospital, Boston, and Ladd Professor of Children's Surgery, Harvard Medical School. Dr. Gross is sometimes mentioned as the first surgeon to successfully undertake open heart surgery in the world. Dr. Gross is one of the pioneers in open heart surgery and first succeeded in tying off the "ductus arteriosus" in 1939.

(4) Dr. W. Proctor Harvey, author, teacher, and Director of the Division of Cariology at

Georgetown University Medieal Center in Washington, D. C.

This program is a part of the professional education program for the Heart Association and all physicians are urged to register early at the Heart Office, which is 2816 North 16th Street, Phoenix, or 1842 East Broadway in Tueson.

Dr. Smith said — "Last year's program attracted physicians from twenty-four states and we expeet heavy registration this year beeause of the quality of our speakers."

Other members of the Symposium Committee include: Doetors, Arthur R. Nelson, Phoenix; Richard O. Flynn, Tempe; William A. Buteher; Andre J. Bruwer; Robert N. Class, Tucson, and William W. Wood, Exeeutive Direetor of the Heart Association from Tempe.

Tentative Program

9TH ANNUAL CANCER SEMINAR

of the Arizona Division

American Cancer Society

"Changing Concepts in Tumor Formation and Therapy"

January 12, 13 & 14, 1961

Tidelands Motor Inn — Tucson

Thursday, January 12

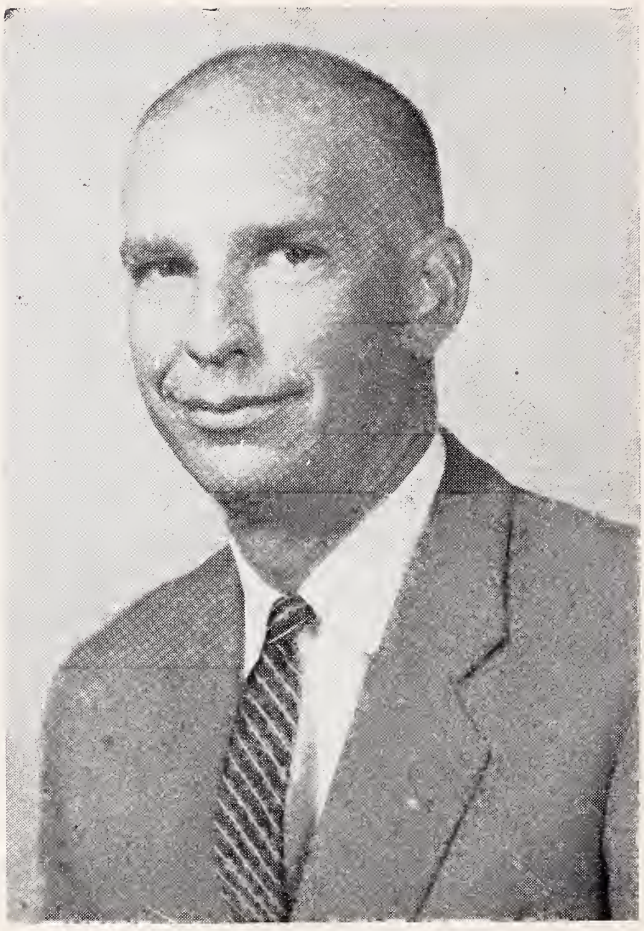
9:00 A.M.	Greetings — Dr. Lindsay E. Beaton, President, The Arizona Medical Association
9:15 A.M.	Some Metabolic Approaches to Cancer Chemotherapy — Part I — Arnold D. Welch, Ph.D., M.D.
9:45 A.M.	Immunology as It Relates to Cancer: Theoretical Aspects — Chester M. Southam, M.D.
10:30 A.M.	Break
10:45 A.M.	The Polyoma Story — Arthur W. Ham, M.B.
11:15 A.M.	Diagnostic and Therapeutic Studies on Cancer of the Adrenal — Roy Hertz, M.D.
12:00 Noon	Luncheon and Round Table
2:00 P.M.	The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors — Jeanne C. Bateman, M.D.
2:30 P.M.	Laboratory Studies in Cancer Chemotherapy with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.
3:00 P.M.	Break
3:15 P.M.	Correlation of the Roentgenologie and Pathologic Findings in the Various Types of Primary Bone Tumors — C. Howard Hatcher, M.D.
3:45 P.M.	Questions and Answer Session

Friday, January 13

9:15 A.M.	Assessment of Environmental Agents in the Pathogenesis of Lung Caneer — Paul Kotin, M.D.
9:45 A.M.	Indirect Mechanisms in Carcinogenesis — Henry S. Kaplin, M.D.
10:15 A.M.	Break
10:30 A.M.	Some Metabolic Approaehes to Caneer Chemotherapy — Part II — Arnold D. Welch, Ph.D., M.D.
11:15 A.M.	Chemotherapy of Choriocareinoma and Related Trophoblastic Tumors — Roy Hertz, M.D.
12:00 Noon	Luncheon

1:30 P.M.	The Treatment of Bone Sarcomas in Selected Patients by Regional Resection — C. Howard Hatcher, M.D.
2:00 P.M.	The Treatment of Advanced Metastatic Tumors — Jeanne C. Bateman, M.D.
2:30 P.M.	Break
2:45-4:00 P.M.	Panel Care of the Patient with Advanced Malignant Diseases

Jeanne C. Bateman, M.D.
C. Howard Hatcher, M.D.
Roy Hertz, Ph.D., M.D.
Henry S. Kaplan, M.D.
Harold W. Kohl, M.D.
Charles P. Neumann, M.D.
Bishop Francis J. Green



Chester M. Southam, M.D.
Sloan-Kettering Institute
Research Unit of Memorial Center
for Cancer and Allied Diseases
New York City

Saturday, January 14

9:15 A.M.	Clinical Pharmacology Studies with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.
9:45 A.M.	Immunology as It Relates to Cancer: Clinical Applications — Past-Attempts and Future Possibilities — Chester M. Southam, M.D.
10:15 A.M.	Break
10:30 A.M.	Host Factors in Relation to the Action of Environmental Carcinogenic Agents — Paul Kotin, M.D.
11:00 A.M.	Chemical Modification of Radiosensitivity — Henry S. Kaplan, M.D.
11:30 A.M.	Possible Tumor Viruses in Man — Arthur W. Ham, M.B.

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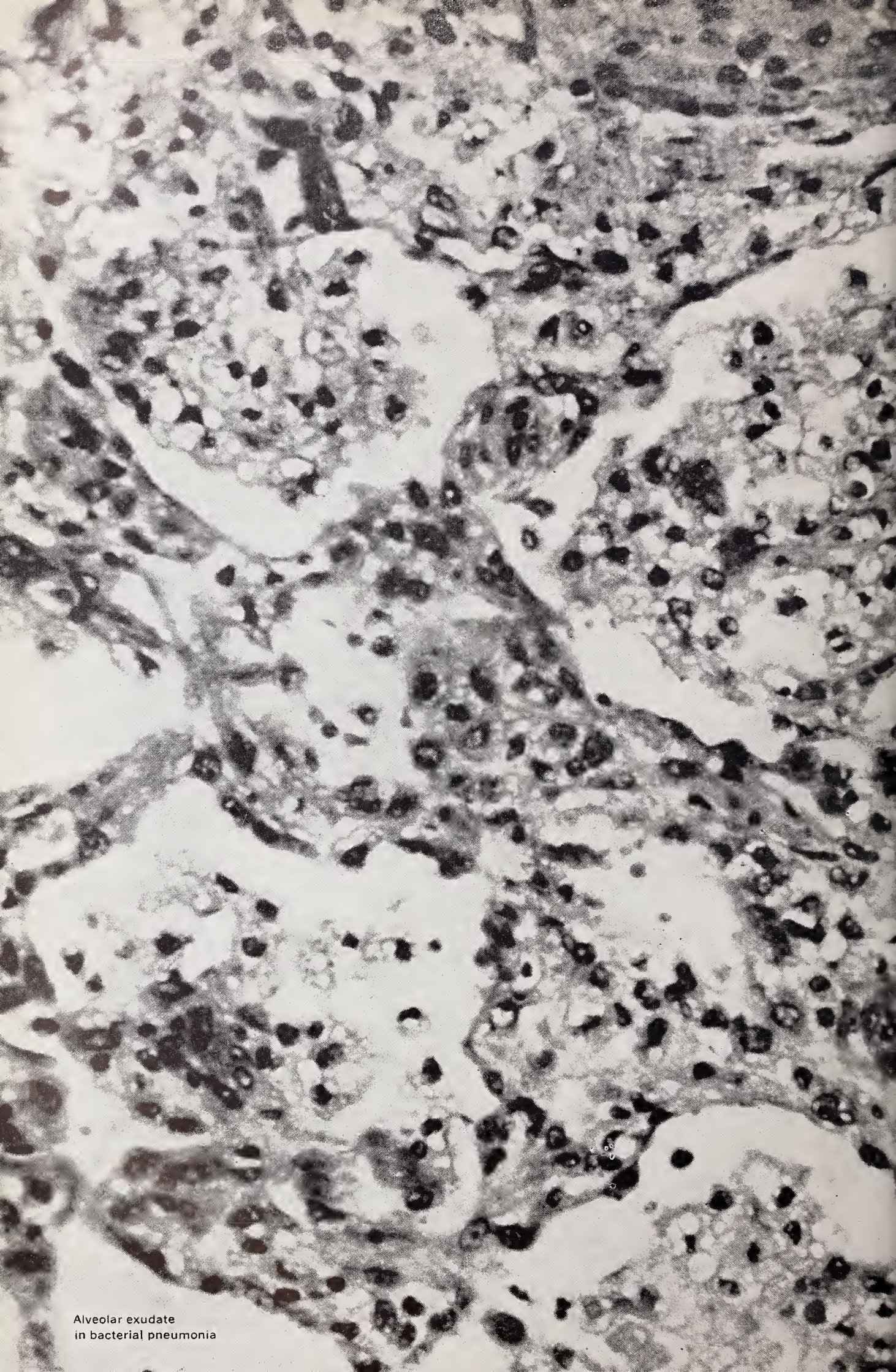
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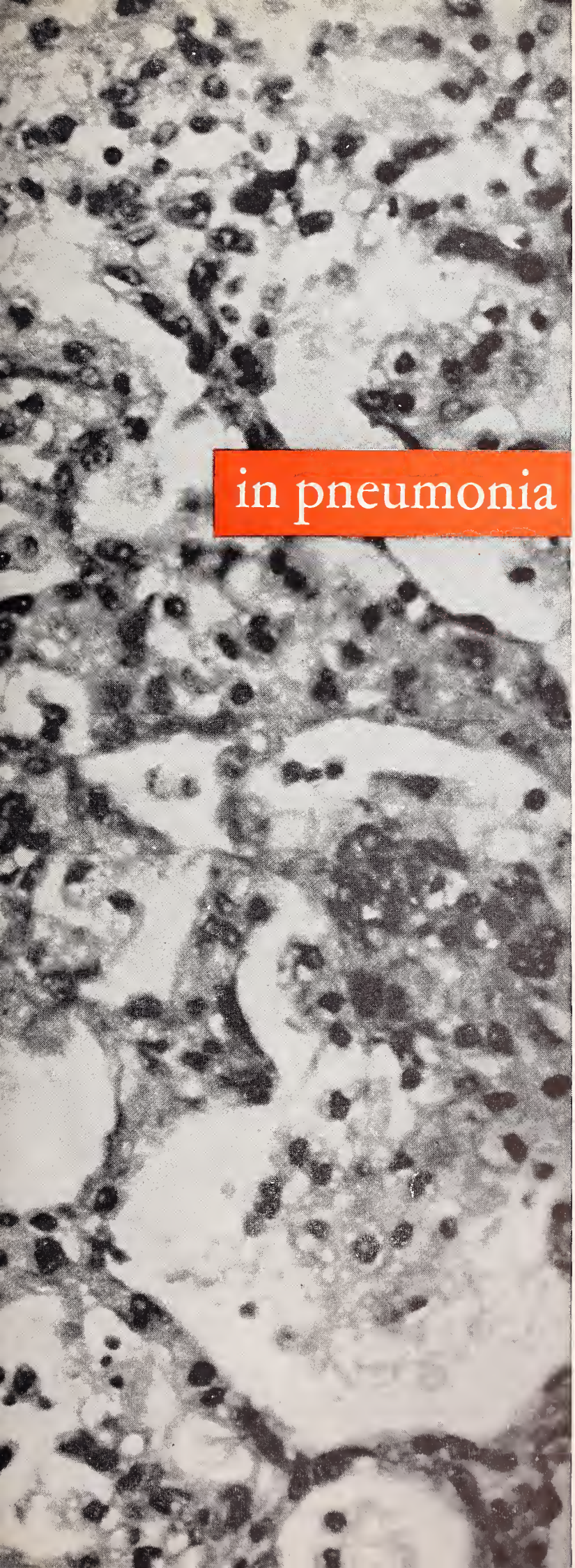
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13 Actinic changes	9	4	—
10 Ichthyosis	3	4	3
Skin Conditions	Benefited	No Benefit	
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1. Weissberg, G.: Clin. Med., June 1960.

2. Spoor, H. J.: N. Y. St. J. Med., Oct. 15, 1958.

*patent pending
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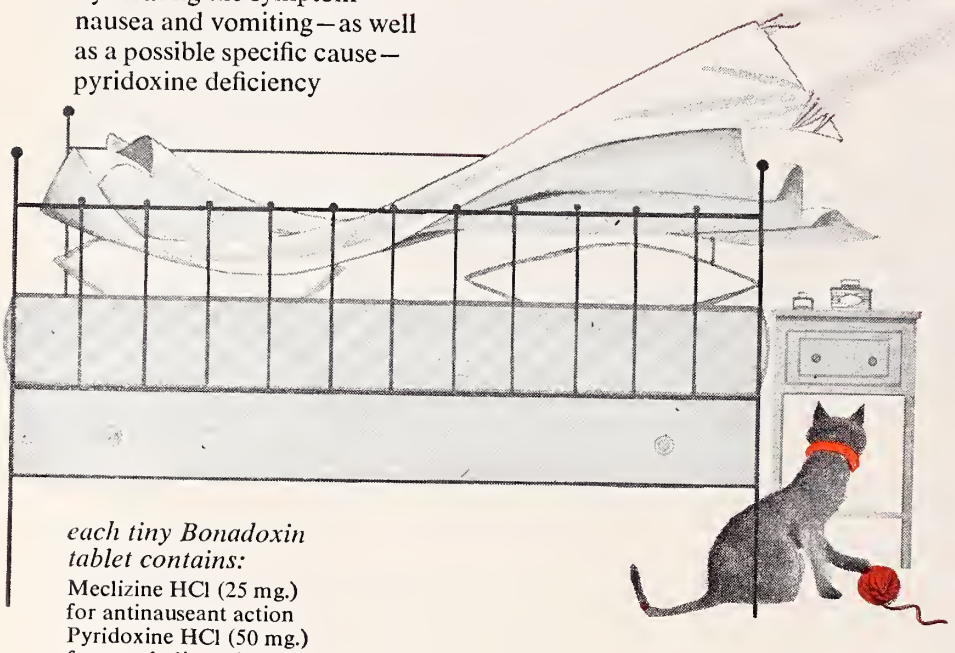
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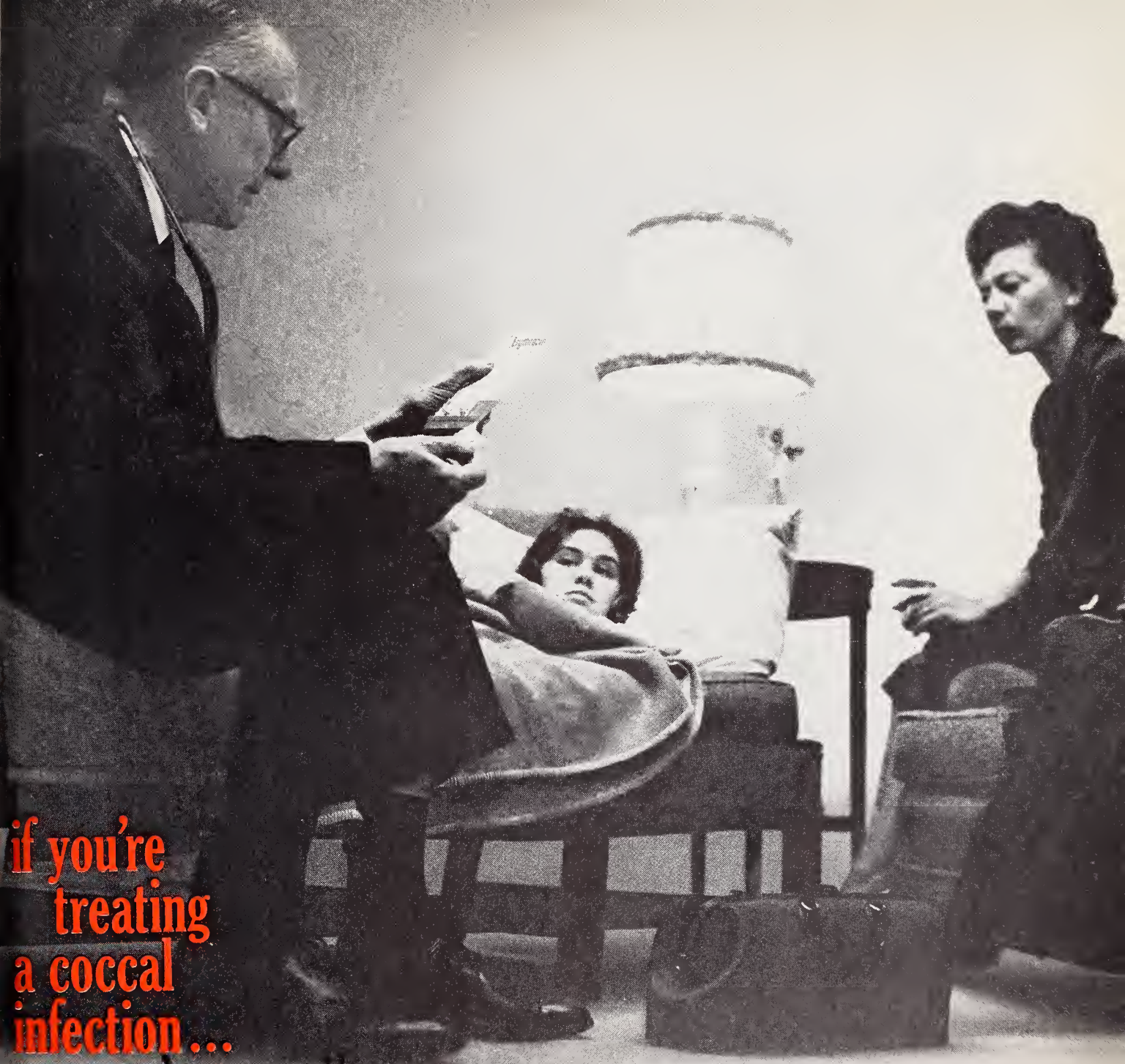
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How much "spectrum" do you need in treating an infection? Clearly, you want an antibiotic that will show the greatest activity against the offending organism, *and the least activity against non-pathogenic gastro-intestinal flora.*

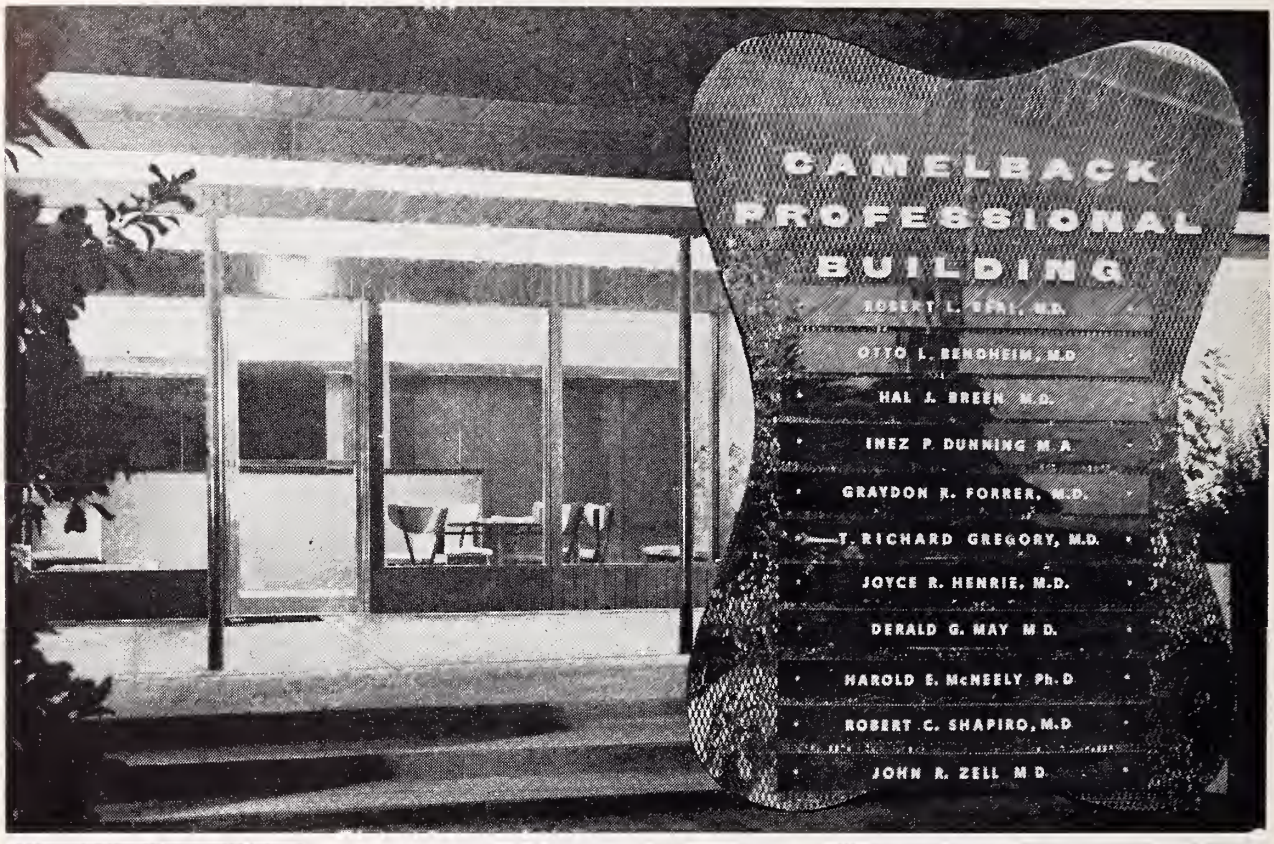
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And against many of the troublesome "staph" strains—a group which shows increasing resistance to penicillin and certain other antibiotics—Erythrocin continues to provide bactericidal activity. Yet, as potent as Erythrocin is, *it rarely has a disturbing effect on normal gastro-intestinal flora.* Comes in easy-to-swallow Filmtabs®, 100 and 250 mg. Usual adult dose is 250 mg. every six hours. Children, in proportion to age and weight. Won't you try Erythrocin?

®Filmtab—Film-sealed tablets, Abbott.

ABBOTT

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FOR THE AGING...

NEW COMPREHENSIVE SUPPORT

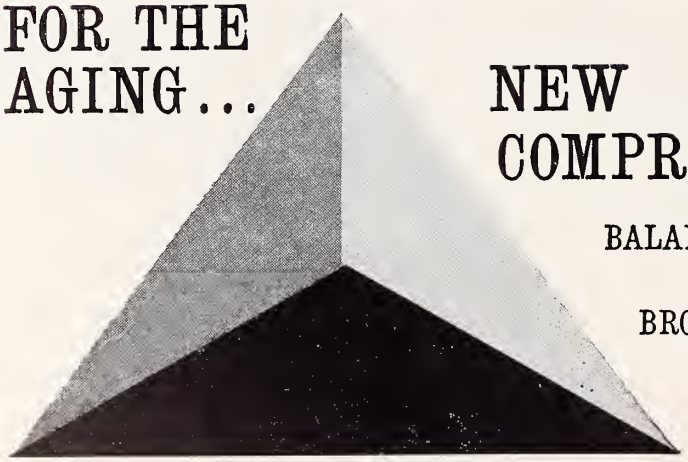
BALANCED HORMONE SUPPLEMENTATION

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BROAD NUTRITIONAL REINFORCEMENT

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MOOD ELEVATION



NEW

1 small capsule every morning

GEVRESTIN®

Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B_1) 5 mg. • Riboflavin (B_2) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B_6) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate 50 mg. • l-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as $CaHPO_4$) 35 mg. • Phosphorus (as $CaHPO_4$) 27 mg. • Fluorine (as CaF_2) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K_2SO_4) 5 mg. • Manganese (as MnO_2) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as $Na_2B_4O_7.10H_2O$) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

UNSURPASSED "GENERAL-PURPOSE" CORTICOSTEROID...

Aristocort®

Triamcinolone LEDERLE

OUTSTANDING FOR "SPECIAL-PURPOSE" THERAPY

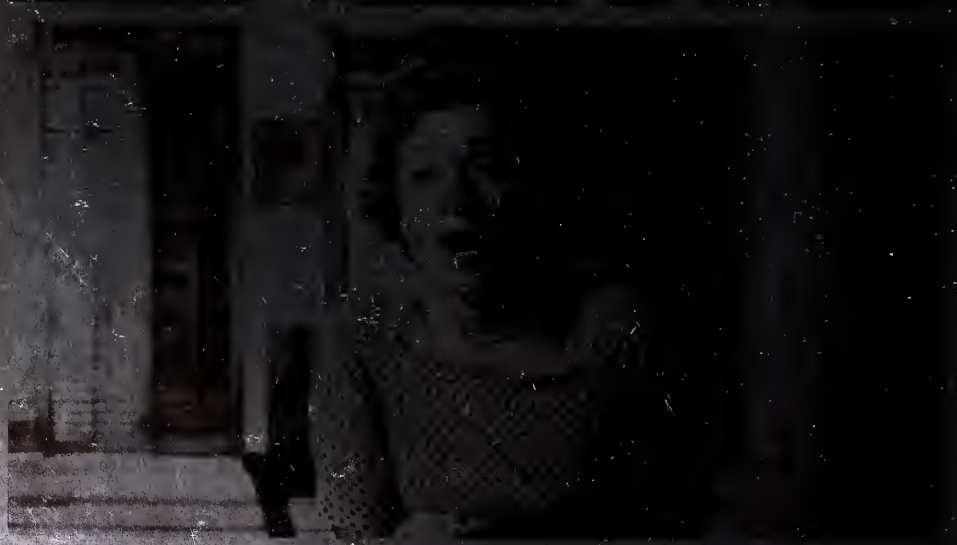
Lederle

for "special-problem" [illegible]

when corticosteroid [illegible]







unsurpassed "general-purpose" steroid... outstanding [illegible]

Aristocort

Aristocort

Triamcinolone has long since proved its unsurpassed efficacy and relative safety in the therapy of *rheumatoid arthritis, inflammatory and allergic dermatoses, bronchial asthma,* and all other conditions in which corticosteroids are indicated. But ARISTOCORT has also opened up new areas of therapy for selected patients who otherwise could not be given corticosteroids. Medicine is now in an era of "special-purpose" steroids.[1]

One outstanding advantage of triamcinolone is that it rarely produces edema and sodium retention.[1,2]

The clinical importance of this property cannot be overemphasized in treating certain types of patients. McGavack and associates[3] have reported the beneficial results with ARISTOCORT in patients with existing or impending cardiac failure, and those with obesity associated with lymphedema. Triamcinolone, in contrast to most other steroids, is not contraindicated in the presence of edema or impending cardiac decompensation.[3]

Hollander[1] points out the superiority of triamcinolone in not causing mental stimulation, increased appetite and weight gain, compared to other steroids which produce these effects in varying degrees. And McGavack,[2] in a comparative tabulation of steroid side effects, indicates that triamcinolone does not produce the increased appetite, insomnia, and psychic disturbances associated with other newer steroids.

ARISTOCORT can thus be advantageous for patients requiring corticosteroids whose appetites should not be stimulated, and for those who are already overweight or should not gain weight. Likewise, ARISTOCORT is suitable for the many patients with emotional and nervous disorders who should not be subjected to psychic stimulation. Furthermore, ARISTOCORT Triamcinolone, in effective doses, showed a low incidence of side reactions and is a steroid of choice for treating the older patient in whom salt and water retention may cause serious damage.[2]

References: 1. Hollander, J. L.: *J.A.M.A.* 172:306 (Jan. 23) 1960. 2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959. 3. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. Dosage should be individualized and kept at the lowest level needed to control symptoms. It should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

Supplied: Scored tablets—1 mg. (yellow); 2 mg. (pink); 4 mg. (white); 16 mg. (white).

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

now—for more comprehensive control of *'pain & spasm'*



INDICATIONS

HEAD: temporomandibular muscle spasm • NECK: acute torticollis, osteoarthritis of cervical spine with spasm of cervical muscles, whiplash injury • TRUNK AND CHEST: costochondritis, intercostal myositis, xiphodynia • BACK: acute and chronic lumbar strains and sprains, acute low back pain (unspecified), acute lumbar arthritis and traumatic injury, compression fracture, herniated intervertebral disc, post-disc syndrome, strained muscle(s) • EXTREMITIES: acute hip injury with muscle spasm, ankle sprain, arthritis (as of foot or knee), blow to shin followed by muscle spasm, bursitis, spasm or strain of muscle or muscle group, old fracture with recurrent spasm, Pellegrini-Stieda disease, tenosynovitis with associated pain and spasm.

-pain due to or associated with -spasm of skeletal muscle

a new muscle relaxant-analgesic



Robaxisal®

ROBAXIN® WITH ASPIRIN

Many conditions, painful in themselves, often give rise to spasm of skeletal muscles. ROBAXISAL, the new dual-acting muscle relaxant-analgesic, treats both the pain and the spasm with marked success: In clinical studies on 311 patients, 12 investigators[1] reported satisfactory results in 86.5%. Each ROBAXISAL Tablet contains:

- A relaxant component — Robaxin*— widely recognized for its prompt, long-lasting relief of painful skeletal muscle spasm, with unusual freedom from undesired side effects. 400 mg.

*Methocarbamol Robins. U.S. Pat. No. 2770649.

- An analgesic component—aspirin—whose pain-relieving effect is markedly enhanced by Robaxin, and which has added value as an anti-inflammatory and anti-rheumatic agent. . . . (5 gr.) 325 mg.

SUPPLY: ROBAXISAL Tablets (pink-and-white, laminated) in bottles of 100 and 500.

Also available: ROBAXIN Injectable, 1.0 Gm. in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

. . . or when anxiety accompanies pain and spasm: **ROBAXISAL®-PH** (Robaxin® with Phenaphen®). Sedative-enhanced analgesic and skeletal muscle relaxant. Each two white-and-green laminated ROBAXISAL-PH tablets contain: methocarbamol 800 mg., plus the equivalent of one Phenaphen capsule (phenacetin 194 mg., acetylsalicylic acid 162 mg., hyoscyamine sulfate 0.031 mg., and ¼ gr. phenobarbital 16.2 mg.). Bottles of 100 and 500.

[1]Clinical reports in files of A. H. Robins Co., Inc., from: J. Allen, Madison, Wisc., B. Billow, New York, N. Y., B. Decker, Richmond, Va., C. Freeman, Jr., Augusta, Ga., R. B. Gordon, New York, N. Y., J. E. Holmblad, Schenectady, N. Y., L. Levy, New York, N. Y., N. LoBue, Chicago Heights, Ill., H. Nachman, Richmond, Va., A. Poindexter, Los Angeles, Cal., E. Rogers, Brooklyn, N. Y., K. H. Strong, Fairfield, Ia.

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Additional information available upon request.

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Making today's medicines with integrity . . . seeking tomorrow's with persistence

in arthritis and allied disorders

Butazolidin®
brand of phenylbutazone
Geigy

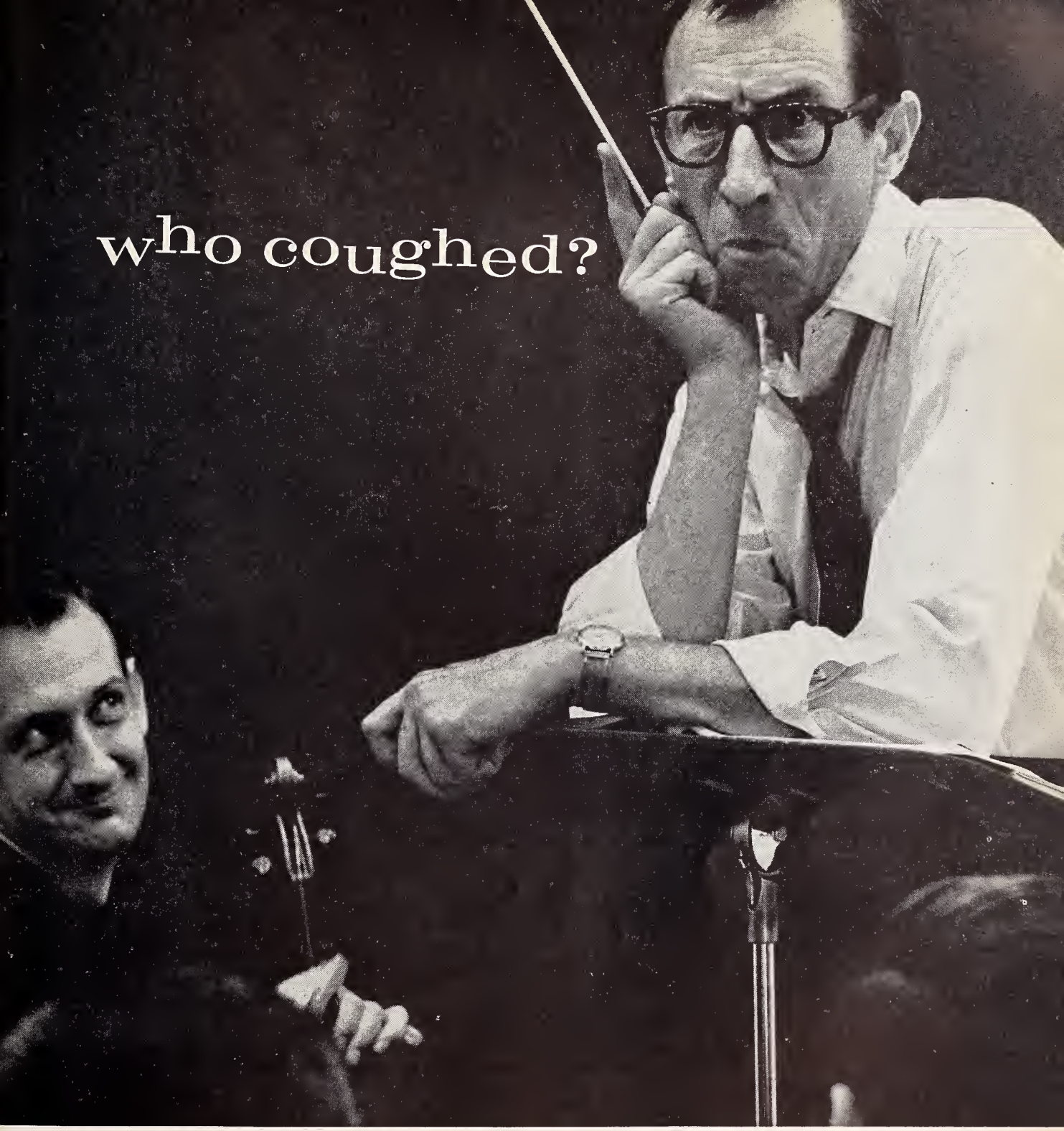
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Since its anti-inflammatory properties were first noted in Geigy laboratories 10 years ago, time and experience have steadily fortified the position of Butazolidin as a leading nonhormonal anti-arthritic agent. Indicated in both chronic and acute forms of arthritis; Butazolidin is noted for its striking effectiveness in relieving pain, increasing mobility and halting inflammatory change.

Butazolidin®, brand of phenylbutazone: Red, sugar-coated tablets of 100 mg. Butazolidin® Alka: Orange and white capsules containing Butazolidin 100 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Geigy, Ardsley, New York





WHENEVER COUGH THERAPY IS INDICATED

HYCOMINE® Syrup

THE COMPLETE Rx FOR COUGH CONTROL

cough sedative / antihistamine
decongestant / expectorant

■ relieves cough and associated symptoms in 15-20 minutes ■ effective for 6 hours or longer ■ promotes expectoration ■ rarely constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE* Syrup contains:

Hycodan®	
Dihydrocodeinone Bitartrate 5 mg.	6.5 mg.
(Warning: May be habit-forming)	
Homatropine Methylbromide 1.5 mg.	
Pyrilamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Average adult dose: One teaspoonful after meals and at bedtime.
May be habit-forming. Federal law permits oral prescription.

Endo®

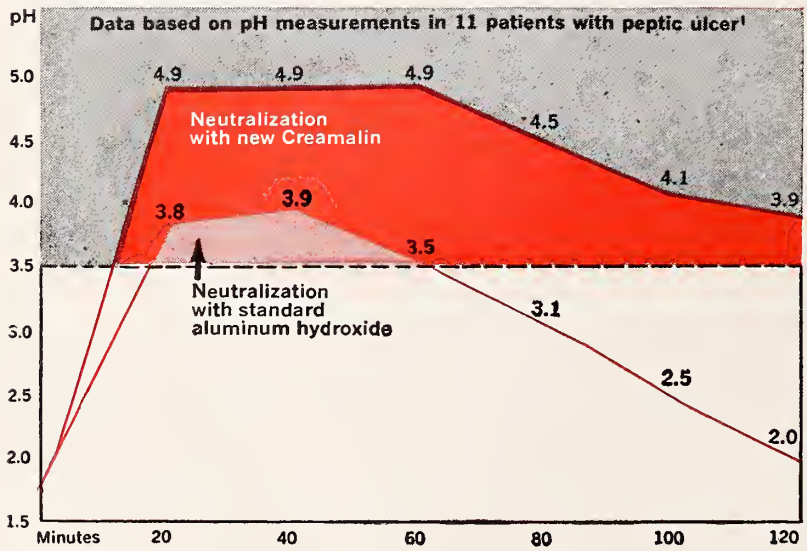
Literature on request
ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pat. 2,630,400

At the site of peptic ulcer



Following determination of basal secretion, intragastric pH was continuously determined by means of frequent readings over a two-hour period.



neutralization is much faster and twice as long with

New CREAMALIN® ANTACID TABLETS

New proof in vivo[1] of the much greater efficacy of new Creamalin tablets over standard aluminum hydroxide has now been obtained. Results of comparative tests on patients with peptic ulcer, measured by an intragastric pH electrode, show that new Creamalin neutralizes acid from 40 to 65 per cent faster than the standard preparation. This neutralization (pH 3.5 or above) is maintained for approximately one hour longer.

New Creamalin provides virtually the same effects as a liquid antacid[2] with the convenience of a tablet.

Nonconstipating and pleasant-tasting, new Creamalin antacid tablets will not produce "acid rebound" or alkalosis.

Each new Creamalin antacid tablet contains 320 mg. of specially processed, highly reactive, short polymer dried aluminum hydroxide gel (stabilized with hexitol) with 75 mg. of magnesium hydroxide. Minute particles of the powder offer a vastly increased surface area for quicker and more complete acid neutralization.

Dosage: Gastric hyperacidity — from 2 to 4 tablets as necessary. Peptic ulcer or gastritis — from 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed whole with water or milk, or allowed to dissolve in the mouth. How supplied: Bottles of 50, 100, 200 and 1000.

1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

Winthrop LABORATORIES
New York 18, N. Y.

for peptic ulcer ■ gastritis ■ gastric hyperacidity

contain the bacteria-prone cold

Tain

(Triacetyloleandomycin, Triaminic® and Calurin®)



inner protection with...

safe antibiosis

Triacetyloleandomycin, equivalent to oleandomycin 125 mg. This is the URI antibiotic, clinically effective against certain antibiotic-resistant organisms.

fast decongestion

Triaminic®, 25 mg., three active components stop running noses. Relief starts in minutes, lasts for hours.

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Calurin®, calcium acetylsalicylate carbamide equivalent to aspirin 300 mg. This is the freely-soluble calcium aspirin that minimizes local irritation, chemical erosion, gastric damage. High, fast blood levels.

TAIN brings quick, symptomatic relief of the common cold (malaise, headache, muscular cramps, aches and pains) especially when susceptible organisms are likely to cause secondary infection. Usual adult dose is 2 Inlay-Tabs, q.i.d. In bottles of 50. ℞ only. Remember, to contain the bacteria-prone cold...TAIN.

SMITH-DORSEY · Lincoln, Nebraska
a division of The Wander Company

Blood pressure that goes up with stress often comes down with SERPASIL®

(reserpine CIBA)

One reason that many cases of hypertension respond to Serpasil is that many cases are associated with stress. Stress situations produce stimuli which pass through the sympathetic nerves, constricting blood vessels, and increasing heart rate. Hyperactivity of the sympathetic nervous system may elevate blood pressure; if prolonged, this may produce frank hypertension. By blocking the flow of excessive stimuli to the sympathetic nervous system, Serpasil guards against stress-induced vasoconstriction, brings blood pressure down slowly and gently.

In mild to moderate hypertension, Serpasil is basic therapy, effective alone "... in about 70 per cent of cases..."*

In severe hypertension, Serpasil is valuable as a primer. By adjusting the patient to the physiologic setting of lower pressure, it smooths the way for more potent antihypertensives.

In all grades of hypertension, Serpasil may be used as a background agent. By permitting lower dosage of more potent antihypertensives, Serpasil minimizes the incidence and severity of their side effects.

CIBA
SUMMIT, N. J.

*Coan, J. P., McAlpine, J. C., and Boone, J. A.: J. South Carolina M. A. 51:417 (Dec.) 1955. /2830M6

Complete information available on request.



THE ORIGINAL potassium phenethicillin

SYNCILLIN®

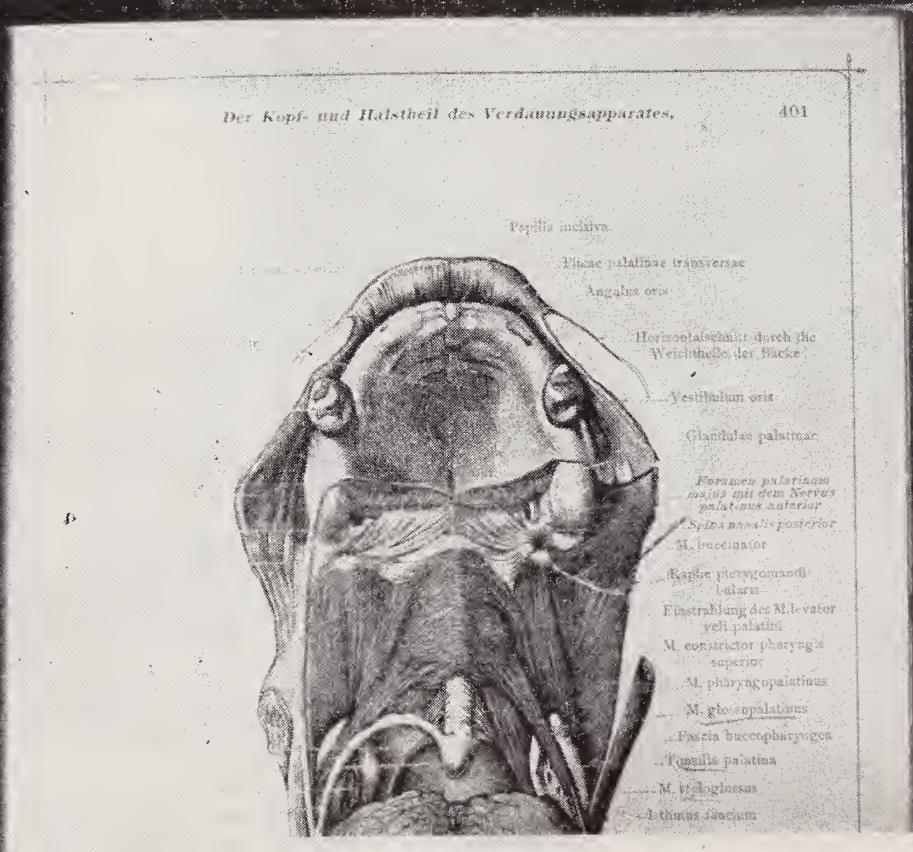
(phenoxyethyl penicillin potassium)

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:

Syncillin Tablets – 250 mg. (400,000 units)... Syncillin Tablets – 125 mg. (200,000 units)
Syncillin for Oral Solution – 60 ml. bottles – when reconstituted, 125 mg. (200,000 units) per 5 ml.
Syncillin Pediatric Drops – 1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)

Complete information on indications, dosage and precautions is included in the circular accompanying each package.

BRISTOL LABORATORIES, SYRACUSE, NEW YORK



Actual case summary from the files of Bristol Laboratories' Medical Department

ACUTE TONSILLITIS

SYNCILLIN®
250 mg. q.i.d. – 5 days

B.G. 9-year-old, white male. First seen Aug. 11, 1959 with acute tonsillitis. Illness of 3 days' duration. Beta hemolytic streptococcus extremely sensitive to SYNCILLIN cultured from the throat. Patient started on SYNCILLIN – 250 mg. q.i.d. After 5 days, the infection appeared cured and the antibiotic was discontinued. No subjective or objective evidence of side reactions.

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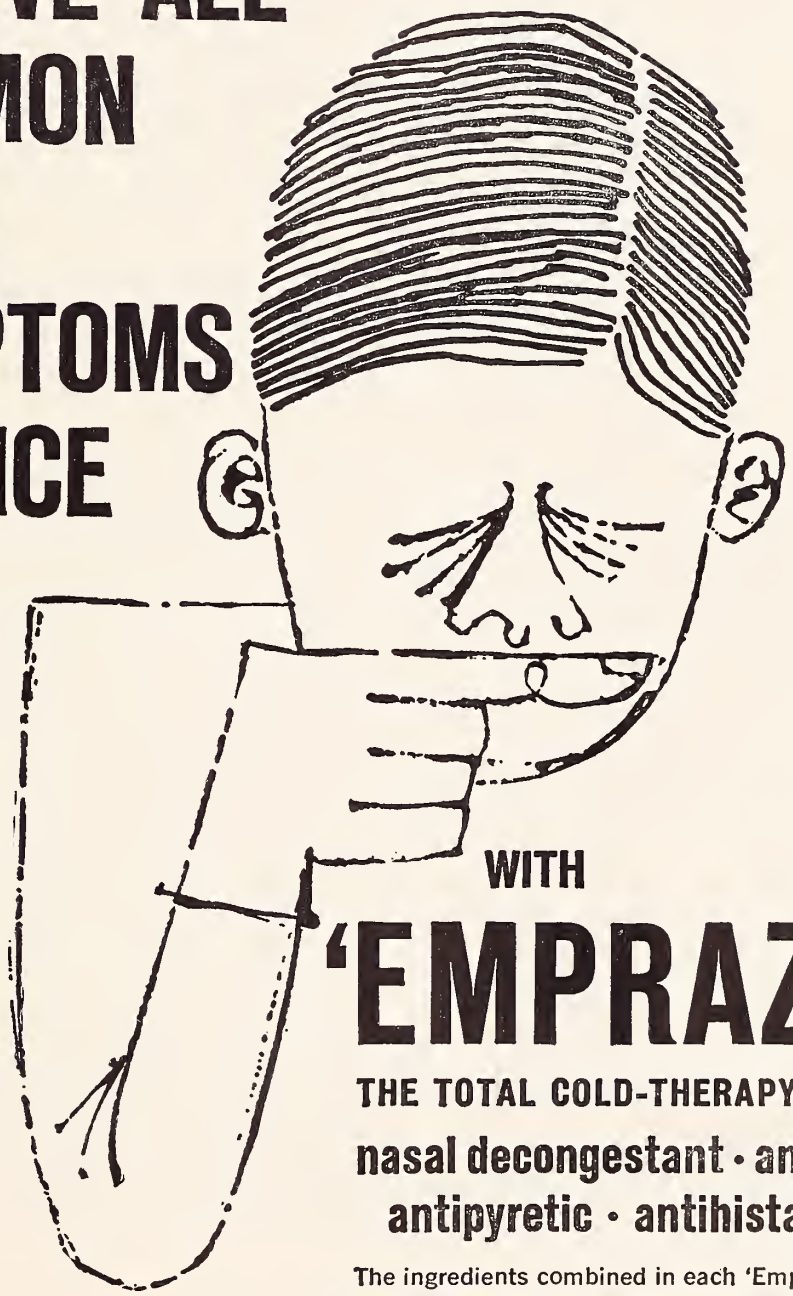
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THE TOTAL COLD-THERAPY TABLET

nasal decongestant • analgesic antipyretic • antihistamine

The ingredients combined in each 'Emprazil' tablet provide multiple drug action for prompt symptomatic relief of aches, pains, fever and respiratory congestion—due to common colds, flu or grippe—without gastric irritation.

Dosage: Adults and older children—One or two tablets t.i.d. as required. Children 6 to 12 years of age—One tablet t.i.d. as required.

Supplied: Bottles of 100 or 1000

Each orange and yellow layered tablet contains:

'Sudafed'® brand Pseudoephedrine Hydrochloride	20 mg.
'Perazil'® brand Chlorcyclizine Hydrochloride	15 mg.
Acetophenetidin	150 mg.
Aspirin (Acetylsalicylic Acid)	200 mg.
Caffeine	30 mg.

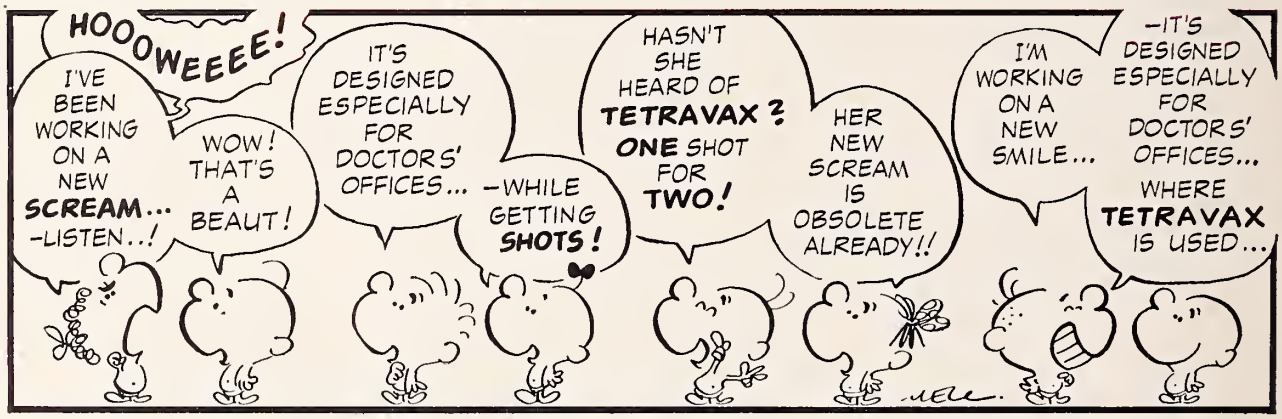
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Poliomyelitis-Diphtheria-Pertussis-Tetanus

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DIPHTHERIA AND TETANUS TOXOIDS WITH PERTUSSIS AND POLIOMYELITIS VACCINES

now you can immunize against more *diseases...with* fewer *injections*

Dose: 1 cc.
Supplied: 9 cc. vials in *clear plastic* cartons. Package circular and material in vial can be examined without damaging carton. Expiration date is on vial for checking even if carton is discarded.



For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.

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relieves pain,
muscle spasm,
nervous tension

rapid action • non-narcotic • economical

"We have found caffeine, used in combination with acetylsalicylic acid, acetophenetidin, and isobutylallylbarbituric acid, [Fiorinal] to be one of the most effective medicaments for the symptomatic treatment of headache due to tension."

Friedman, A. P., and Merritt, H. H.: J.A.M.A. *163*:1111 (Mar. 30) 1957.

able: Fiorinal Tablets and
Form — Fiorinal Capsules

Each contains: Sandoptal (Allylbarbituric Acid N.F. X) 50 mg. (3/4 gr.), caffeine 40 mg. (2/3 gr.), acetylsalicylic acid 200 mg. (3 gr.), acetophenetidin 130 mg. (2 gr.).

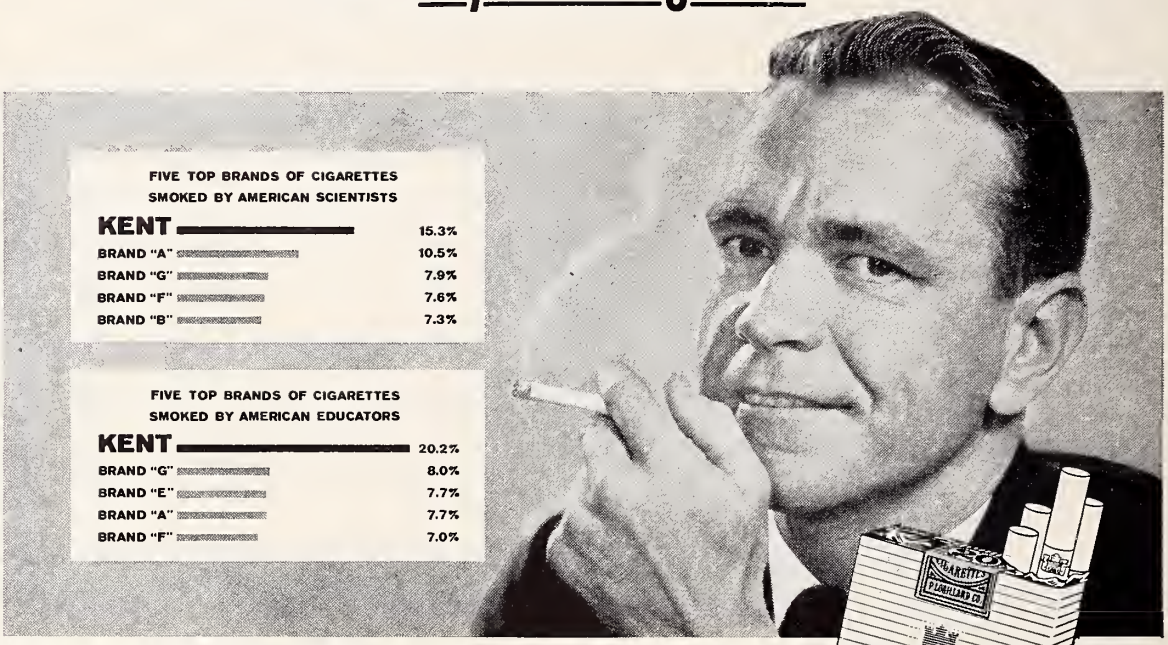
Dosage: 1 or 2 every four hours, according to need, up to 6 per day.

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The rich pleasure of smoking Kent comes from the flavor of the world's finest natural tobaccos, and the free and easy draw of Kent's famous Micronite Filter.



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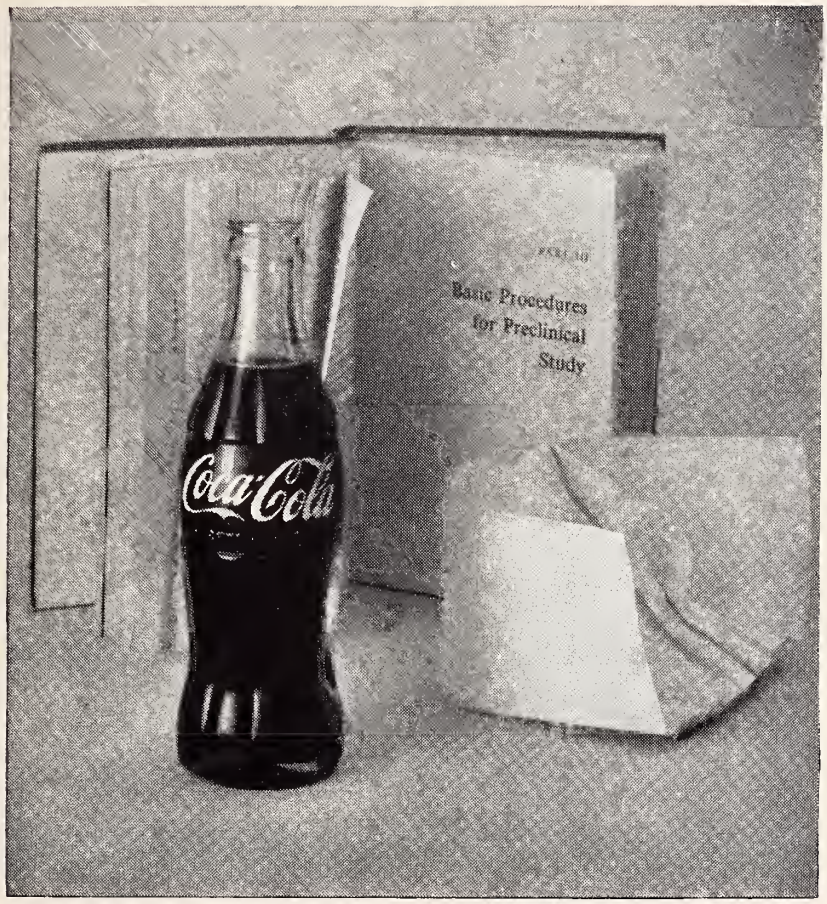
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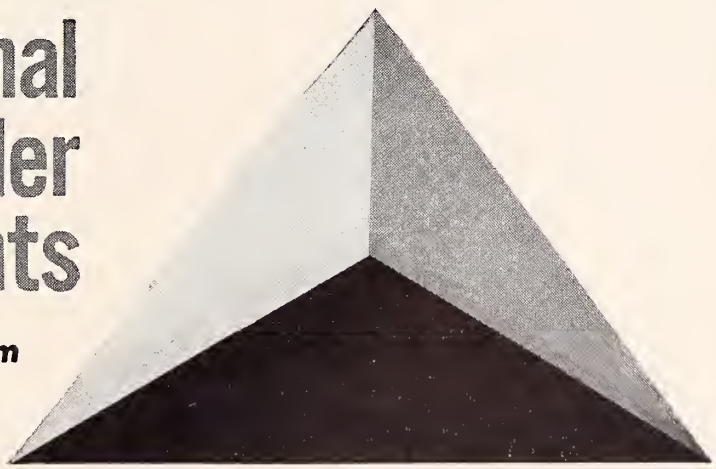


When too many tasks
seem to crowd
the unyielding hours,
a welcome
"pause that refreshes"
with ice-cold Coca-Cola
often puts things
into manageable order.

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3-dimensional support for older patients

BOLSTERS... ▲ *tissue metabolism*
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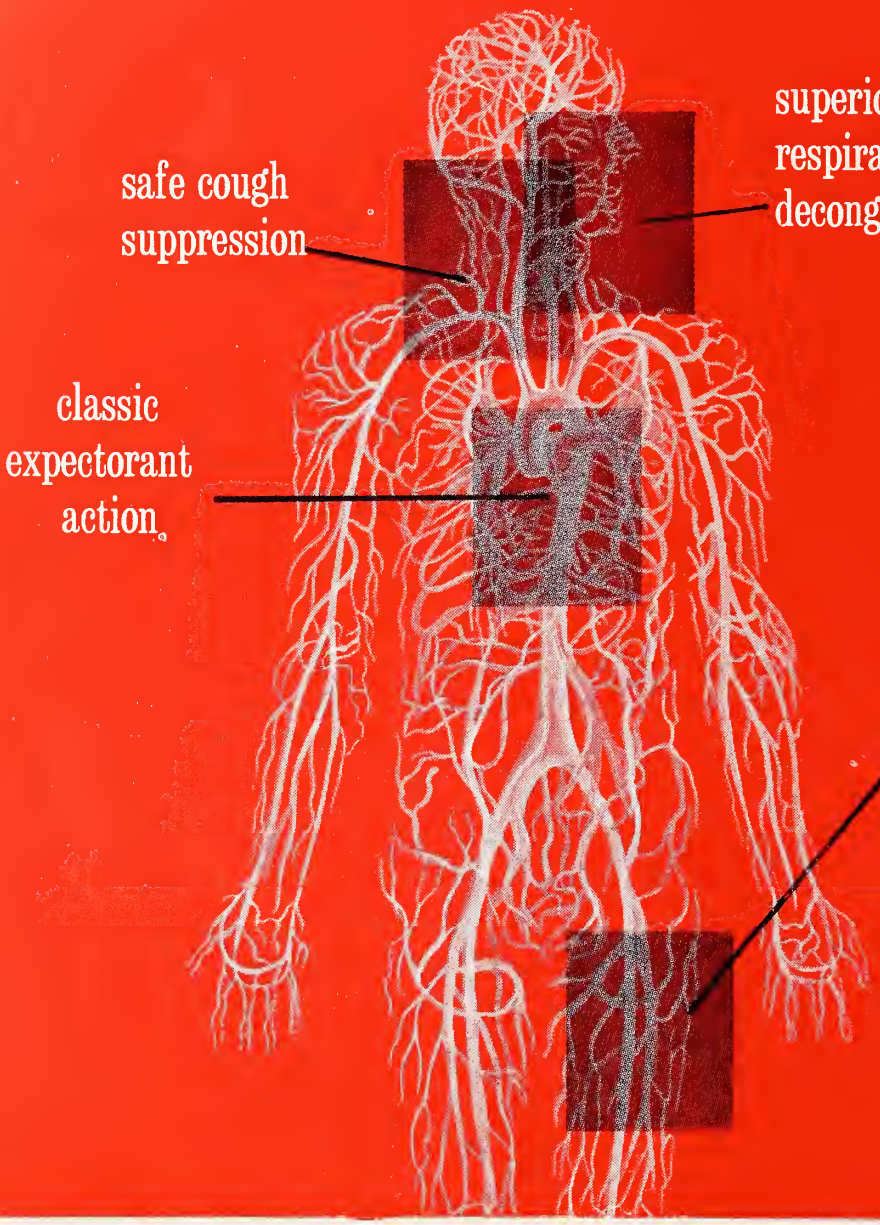
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Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B_1) 5 mg. • Riboflavin (B_2) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B_6) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate 50 mg. • l-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as $CaHPO_4$) 35 mg. • Phosphorus (as $CaHPO_4$) 27 mg. • Fluorine (as CaF_2) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K_2SO_4) 5 mg. • Manganese (as MnO_2) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as $Na_2B_4O_7.10H_2O$) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

for relief from the total cold syndrome...



Tussagesic*

timed-release tablets/suspension

Each Tussagesic timed-release Tablet provides:

TRIAMINIC®	50 mg.
DORMETHAN (brand of dextromethorphan HBr)	30 mg.
TERPIN HYDRATE	180 mg.
APAP (acetaminophen)	325 mg.

Dosage: *Adults and children over 12* — one tablet in the morning, midafternoon and at bedtime. Each tablet should be swallowed whole to preserve the timed-release action.

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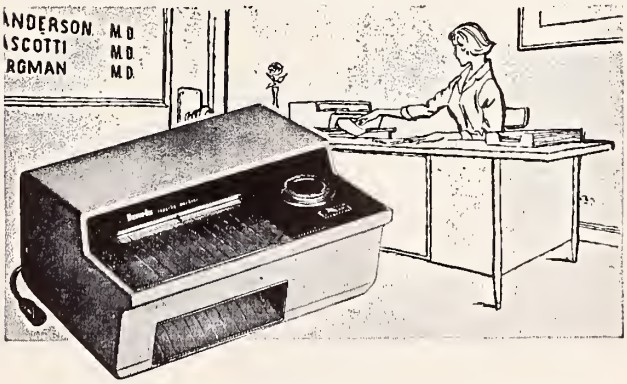
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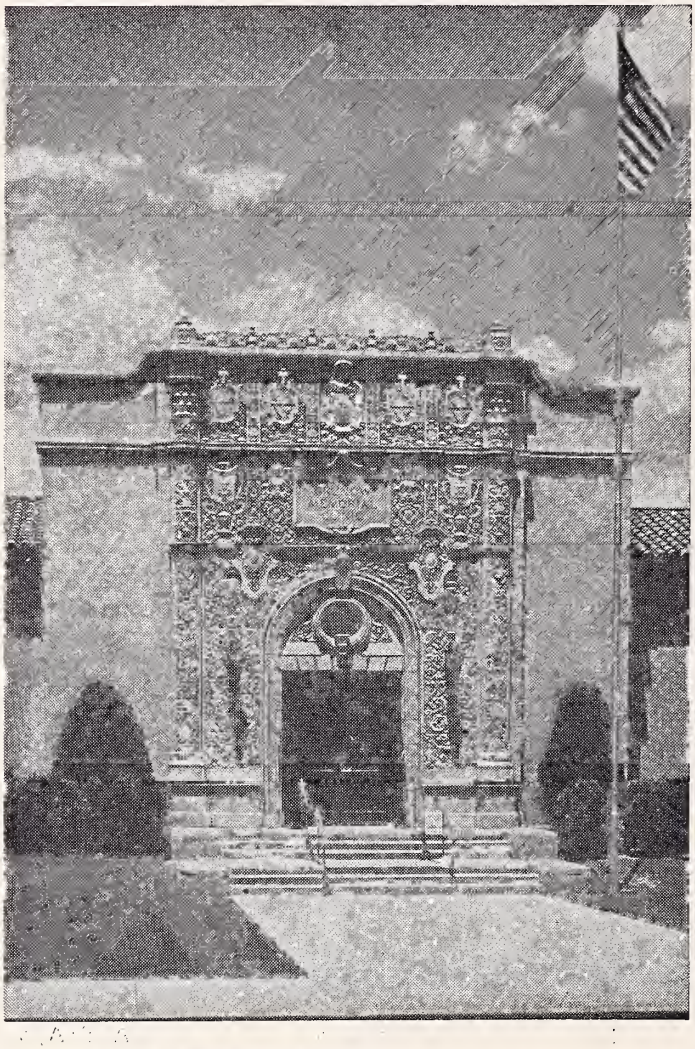
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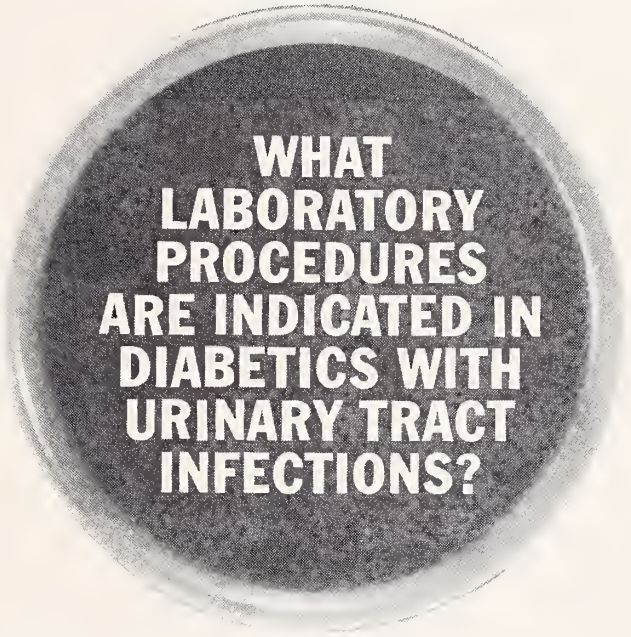
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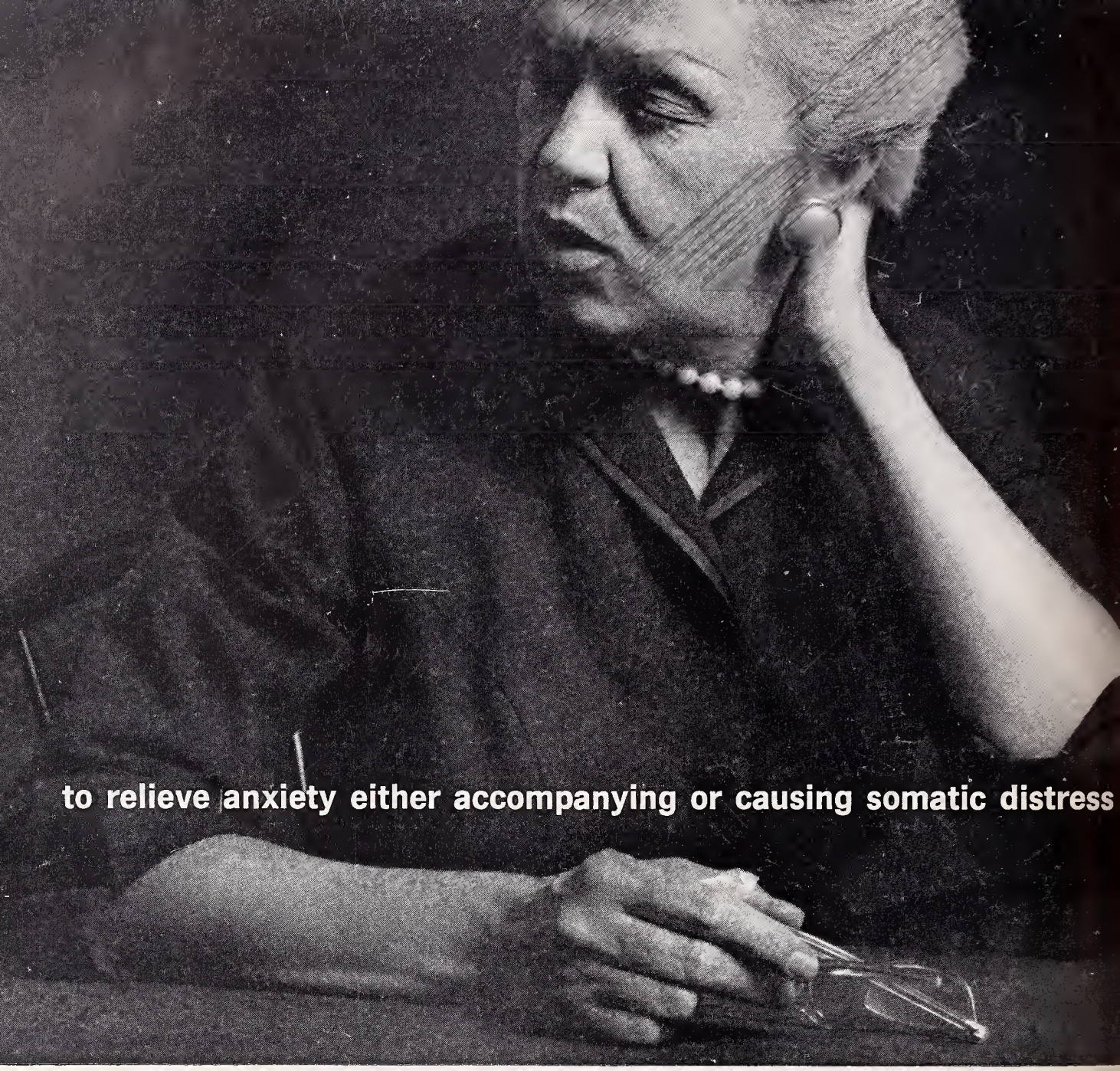
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1. Marx, F.J., in *Trifluoperazine: Further Clinical and Laboratory Studies*, Philadelphia, Lea & Febiger, 1959, p. 89.
2. Winkelman, N.W., Jr.: *ibid.*, p. 78.

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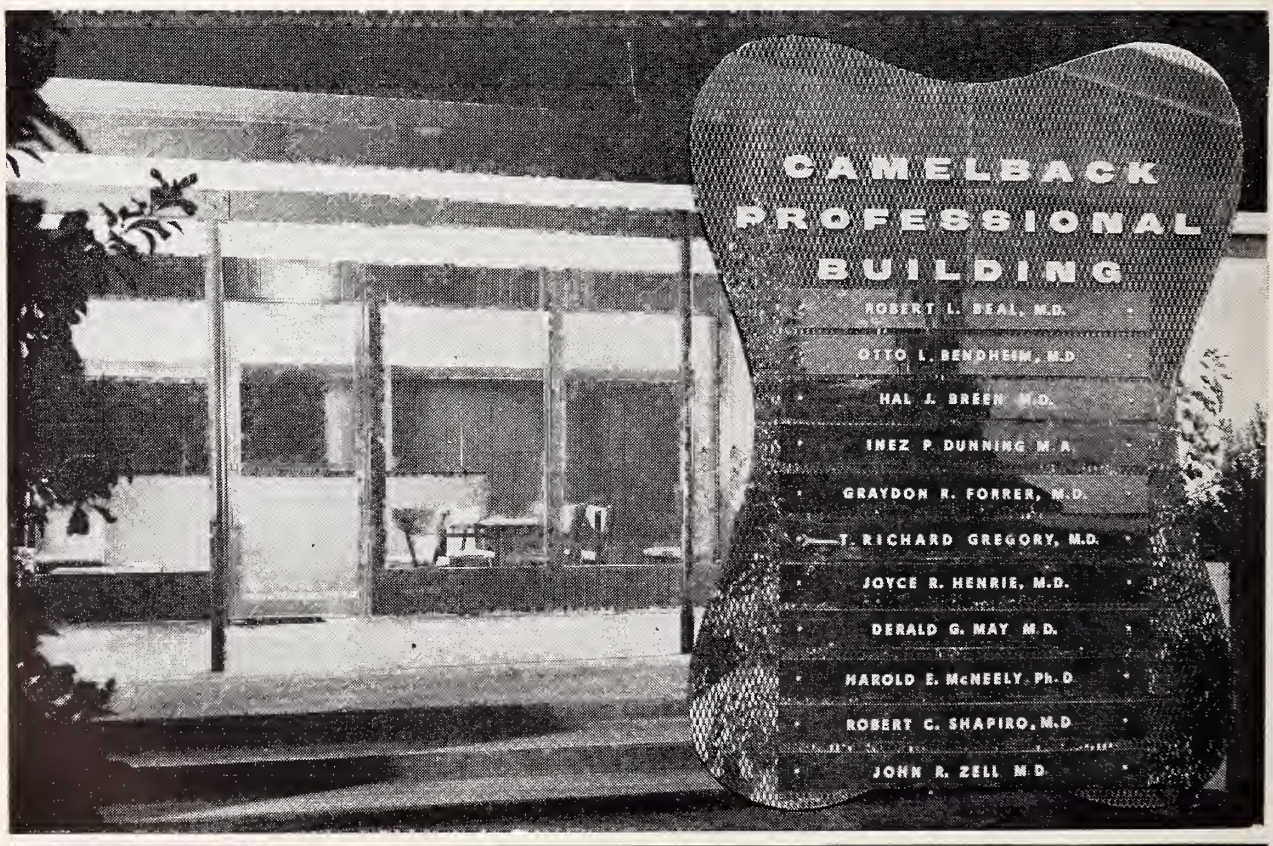
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Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

December, 1960 Vol. 17, No. 12

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Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than STAPHCILLIN. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

STAPHCILLIN is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of STAPHCILLIN and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing STAPHCILLIN with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of STAPHCILLIN per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antomicrohial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg./ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

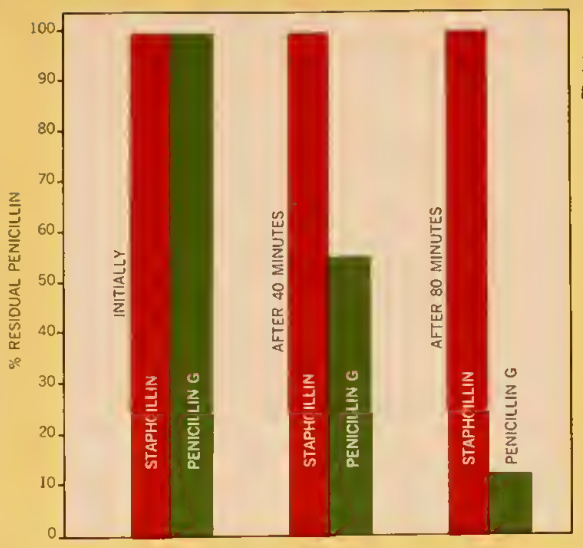
List 79502 — 1.0 Gm. dry filled vial.

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Division of Bristol-Myers Company

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UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

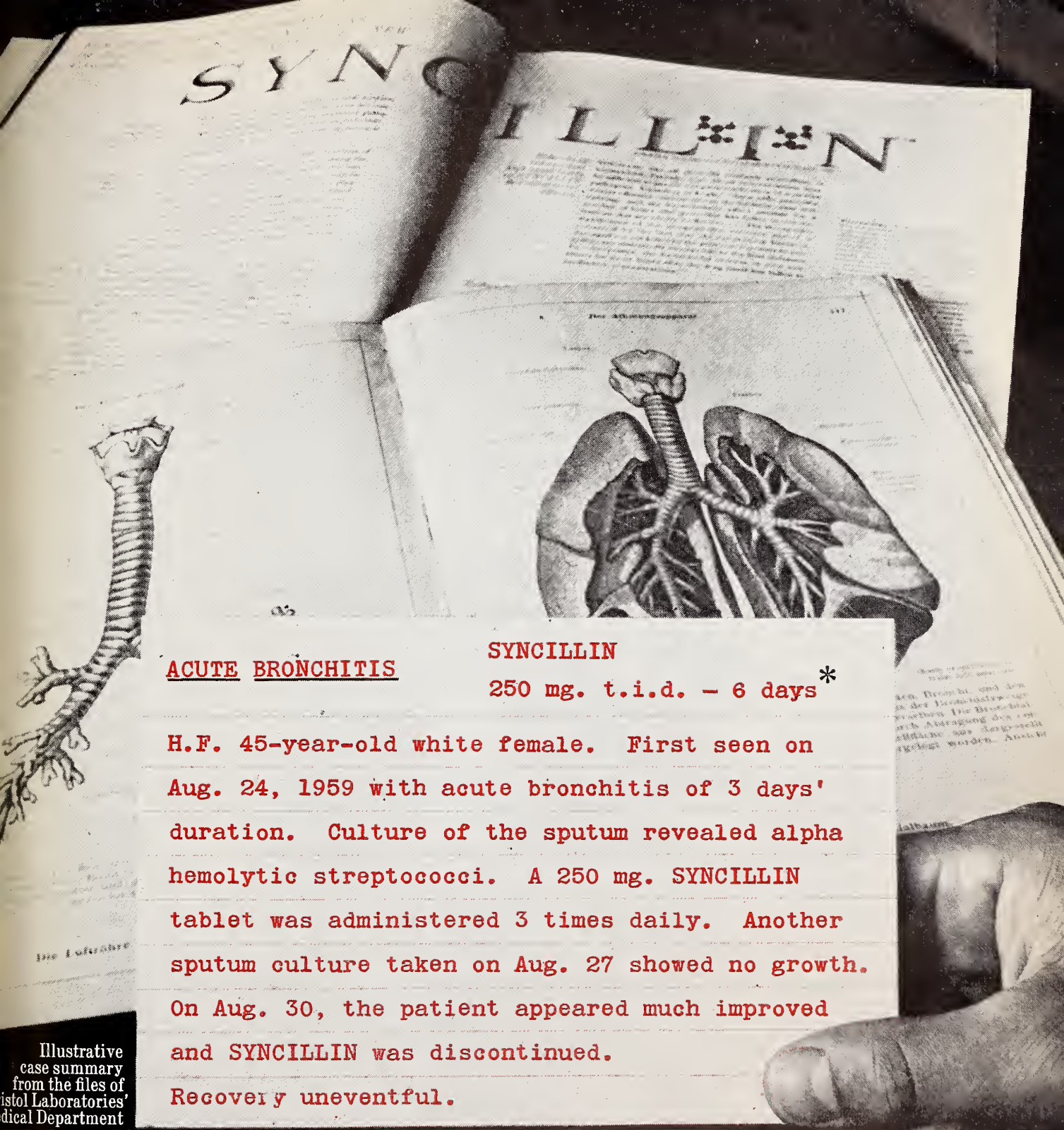
2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE — The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

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Division of Bristol-Myers Company



ACUTE BRONCHITIS

SYNCILLIN
250 mg. t.i.d. – 6 days*

H.F. 45-year-old white female. First seen on Aug. 24, 1959 with acute bronchitis of 3 days' duration. Culture of the sputum revealed alpha hemolytic streptococci. A 250 mg. SYNCILLIN tablet was administered 3 times daily. Another sputum culture taken on Aug. 27 showed no growth. On Aug. 30, the patient appeared much improved and SYNCILLIN was discontinued. Recovery uneventful.

Illustrative case summary from the files of Bristol Laboratories' Medical Department

THE ORIGINAL phenethicillin

SYNCILLIN®

(phenoxyethyl penicillin potassium)

FIRST SYNTHESIZED AND MADE AVAILABLE BY BRISTOL LABORATORIES

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:

Syncillin Tablets—250 mg. (400,000 units)...Syncillin Tablets—125 mg. (200,000 units)
Syncillin for Oral Solution—60 ml. bottles—when reconstituted, 125 mg. (200,000 units) per 5 ml.
Syncillin Pediatric Drops—1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)

*Streptococcal infections should be treated for at least 10 days to prevent the development of rheumatic fever and as prophylaxis against bacterial endocarditis in susceptible patients.

Complete information on indications, dosage and precautions is included in the circular accompanying each package.

BRISTOL LABORATORIES, Div. of Bristol-Myers Co., SYRACUSE, N.Y.

BRISTOL™

NEW *Antirheumatic Analgesic*

PLANOLAR*

for Rheumatoid Arthritis

Planolar combines the cumulative antirheumatic and anti-inflammatory action of Plaquenil® with the prompt analgesic action of aspirin.

Each tablet contains: **Plaquenil 60 mg.**
Aspirin 300 mg. (5 grains)

Plaquenil "...the preferred antimalarial drug for treatment of disorders of connective tissue..."[1]

Aspirin belongs to "...the most useful group of drugs for rheumatoid arthritis."[2]

WRITE:
for detailed information (clinical experience, side effects, precautions, etc.)

HOW SUPPLIED: ***Bottles of 100 tablets.***

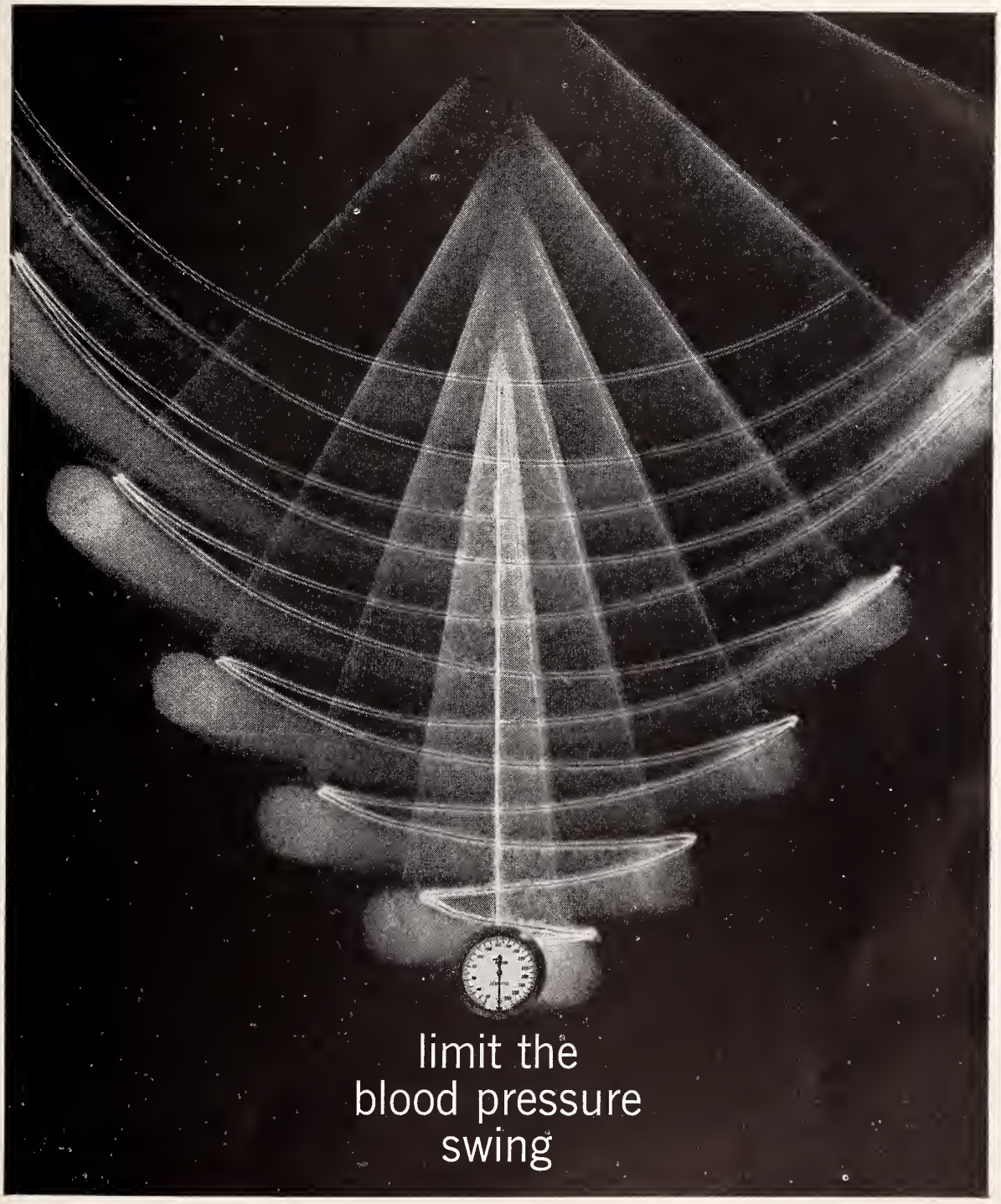
Winthrop LABORATORIES
New York 18, N. Y.

DOSAGE: Adults, 2 tablets two or three times daily. After two or three months of therapy, the patient may no longer need the added benefit of aspirin. A maintenance regimen of Plaquenil sulfate alone (from 200 to 400 mg. daily) may then be substituted.

REFERENCES:

1. Scherbel, A. L.; Schuchter, S. L., and Harrison, J. W.: Cleveland Clin. Quart. 24:98, April, 1957.
2. Waine, Hans: Arthritis, rheumatoid, in Conn, H. F.: Current Therapy 1959, Philadelphia, W. B. Saunders Co., 1959, p. 565.

*Planolar, trademark



Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing. Rautrax-N combines Raudixin, the cornerstone of antihypertensive therapy, with Naturetin, the new, safer diuretic-antihypertensive agent. The complementary action of the components permits a lower dose of each thus reducing the incidence of side effects. The result: Maximum effectiveness, minimal dosage, enhanced safety. Rautrax-N also contains potassium chloride — for added protection against possible potassium depletion during maintenance therapy.

Supply: Rautrax-N — capsule-shaped tablets — 50 mg. Raudixin, 4 mg. Naturetin, and 400 mg. potassium chloride. Rautrax-N Modified — capsule-shaped tablets — 50 mg. Raudixin, 2 mg. Naturetin, and 400 mg. potassium chloride. For complete information write Squibb, 745 Fifth Avenue, New York 22, N. Y.

new Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Benzydroflumethiazide (*Naturetin) with Potassium Chloride

Squibb Quality—The Priceless Ingredient

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RAUDIXIN,® RAUTRAX,® AND NATURETIN® ARE SQUIBB TRADEMARKS.

NEW PROTEIN TISSUE-BUILDING AGENT

ADROYD®

N+
oxymetholone
Parke-Davis

FOR SIGNIFICANT ANABOLIC GAINS IN: ASTHENIA (UNDERWEIGHT, ANOREXIA, LACK OF VIGOR); CONVALESCENCE FROM SURGERY OR SEVERE INFECTIONS; WASTING DISEASES; BURNS; FRACTURES; OSTEOPOROSIS; AND IN OTHER CATABOLIC STATES

■ PROMOTES AND MAINTAINS POSITIVE NITROGEN BALANCE ■ HELPS RESTORE APPETITE, STRENGTH, AND VIGOR ■ BUILDS FIRM, LEAN MUSCULAR TISSUE ■ FAVORABLY INFLUENCES CALCIUM AND PHOSPHORUS METABOLISM ■ PROMOTES A SENSE OF WELL-BEING

ADROYD PROVIDES HIGH ANABOLIC ACTIVITY – The tissue-building potential of ADROYD exceeds its androgenic action to the extent that masculinizing effects have not been a problem in clinical use.* Other advantages of ADROYD are: Neither estrogenic nor progestational. No significant fluid retention. Apparent freedom from nausea, vomiting, and other gastrointestinal disturbances. Effective by the oral route.

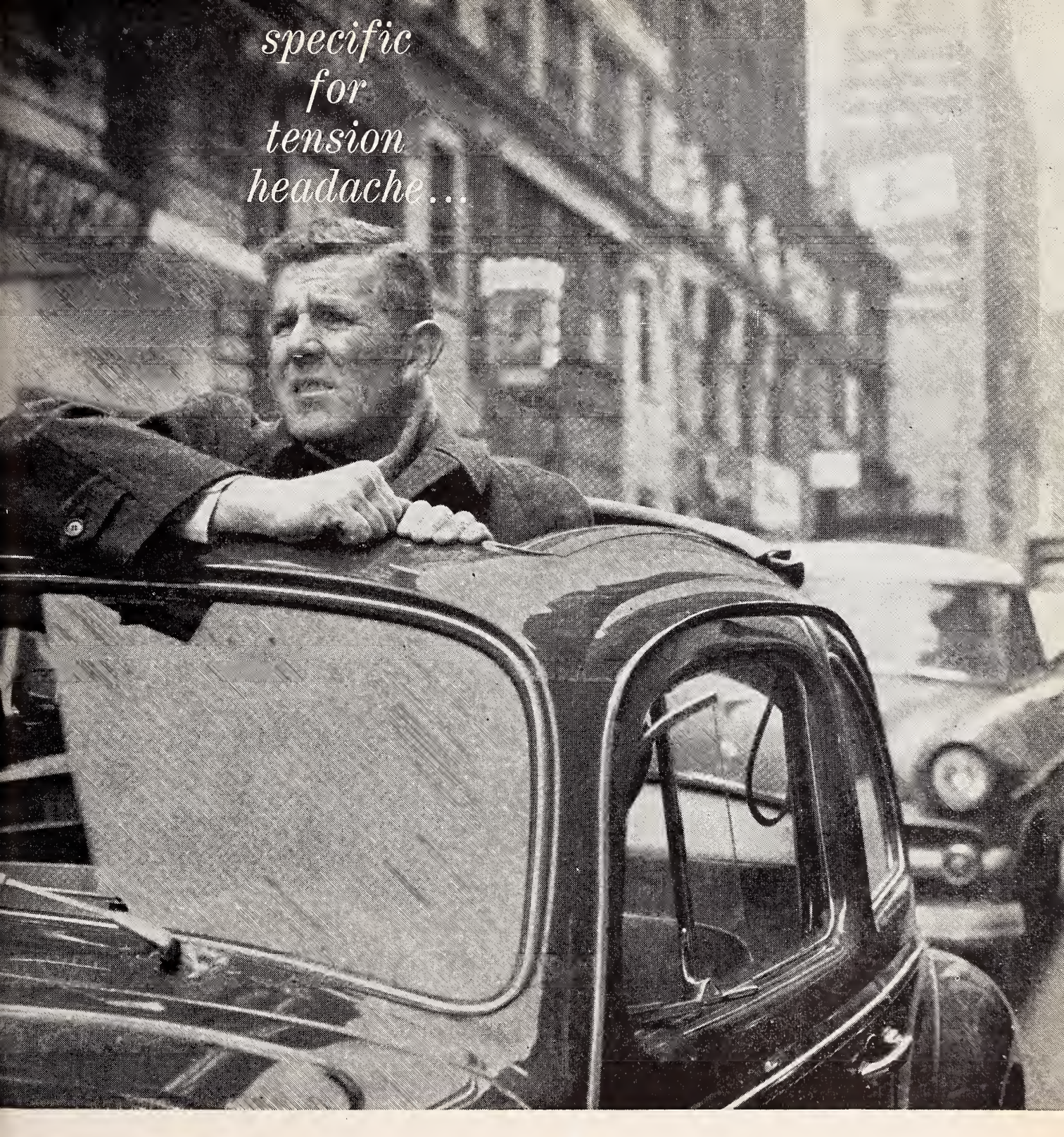
See medical brochure, available to physicians, for details of administration and dosage.

Supplied: 10-mg. scored tablets, bottles of 30. 48760

*Reports to Department of Clinical Investigation, Parke, Davis & Company, 1958 and 1959.

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FIORINAL®

relieves pain,
muscle spasm,
nervous tension

rapid action • non-narcotic • economical

"We have found caffeine, used in combination with acetylsalicylic acid, acetophenetidin, and isobutylallylbarbituric acid, [Fiorinal] to be one of the most effective medicaments for the symptomatic treatment of headache due to tension."

Friedman, A. P., and Merritt, H. H.: J.A.M.A. *163*:1111 (Mar. 30) 1957.

vailable: Fiorinal Tablets and
lew Form — Fiorinal Capsules

Each contains: Sandoptal (Allylbarbituric Acid N.F. X) 50 mg. (3/4 gr.), caffeine 40 mg. (2/3 gr.), acetylsalicylic acid 200 mg. (3 gr.), acetophenetidin 130 mg. (2 gr.).

Dosage: 1 or 2 every four hours, according to need, up to 6 per day.

SANDOZ

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Blue Cross - Blue Shield

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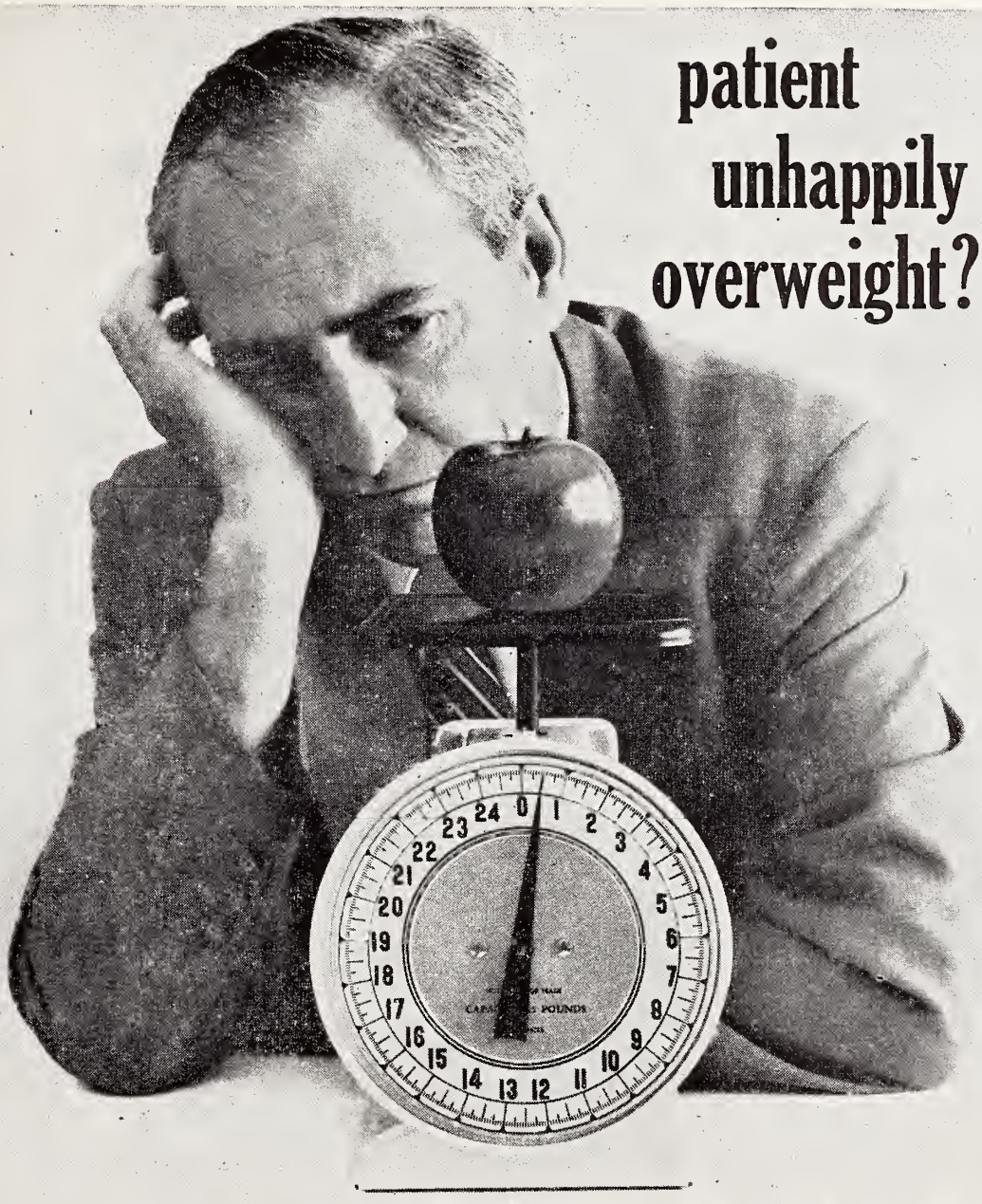
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blue cross : blue shield

BLUE CROSS-BLUE SHIE

no matter what the type face is, it still spells out the

finest hospital-medical-surgical coverage there is.



minimize care and eliminate despair with

'METHEDRINE'®

brand Methamphetamine Hydrochloride

Controls food craving, keeps the reducer happy—In obesity, "our drug of choice has been methedrine . . . because it produces the same central effect with about one-half the dose required with plain amphetamine, because the effect is more prolonged, and because undesirable peripheral effects are significantly minimized or entirely absent."[1] Literature available on request.

Supplied: Tablets 5 mg., scored. Bottles of 100 and 1000.

[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

for chronic bronchitis

Tetrex® capsules

The Original Tetracycline Phosphate Complex

U.S. PAT. NO. 2,791,609

effective control of pathogens...with an unsurpassed record of safety and tolerance



BRISTOL LABORATORIES, SYRACUSE, NEW YORK
Div. of Bristol-Myers Co.

BRISTOL™

SUPPLY: TETREX Capsules—tetracycline phosphate complex—each equivalent to 250 mg. tetracycline HCl activity. Bottles of 16 and 100.

TETREX Syrup—tetracycline (ammonium polyphosphate buffered) syrup—equivalent to 125 mg. tetracycline HCl activity per 5 ml. teaspoonful. Bottles of 2 fl. oz. and 1 pint.



Note the two tablets on the shelf above. Left, old-style sugar-coated Dayalets-M®. Right, the same formula, but *Filmtab-coated*—potency's assured, but old-style bulk is cut 30%.

ON COATS:

STYLES CHANGE IN VITAMINS, TOO

Coat styles change—whether it's a blazer or a B-complex vitamin. Not long ago, for instance, "Vitamins by Abbott" were dressed up with a new-style coating—*Filmtab*®.

The most obvious result was a marked reduction in tablet size—up to 30% in some products. The tablets themselves were brilliant in a variety of rainbow colors. They wouldn't chip or stick together in the bottle. All vitamin tastes and odors—gone.

Such were the aesthetic gains. Behind these, a significant pharmaceutical advance: with Filmtab, deterioration is slowed to an irreducible minimum, because the coating process is essentially a water-free procedure.

Finally—most important—Filmtab guarantees that the content of each tablet matches the formula printed on the label. While the person taking the vitamins may not worry much about rigid stability, Abbott does. *Assures* it, through Filmtab.

In short, Filmtab's a name that stands for quality, stability, potency. The very best in vitamin coatings. Filmtab doesn't add a penny to the cost. And it's a name found *only* on

VITAMINS by ABBOTT

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NUTRITIONAL
PRODUCT
FROM ABBOTT

To meet special nutritional needs of growing teenagers...

Filmtab® DAYTEENS
TRADEMARK

- RICH IN IRON, CALCIUM, VITAMINS—IMPORTANT FACTORS FOR THE GROWTH YEARS
- FILMTAB-COATED TO CUT SIZE AND ASSURE FULL POTENCY
- HANDSOME TABLE BOTTLES AT NO EXTRA COST (100-SIZE)
- ALSO SUPPLIED IN BOTTLES OF 250 AND 1000.

NOW, DAYTEENS JOINS THE COMPLETE LINE OF QUALITY VITAMINS BY ABBOTT:

FILMTAB
DAYALETS®
Table bottles of 100
Bottles of 50 and 250

FILMTAB
DAYALETS-M®
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Extra-potent maintenance formulas—ideal for the "nutritionally run-down"

FILMTAB
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FILMTAB
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Table bottles of 30 and 100
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Therapeutic formulas for more severe deficiencies—illness, infection, etc.

FILMTAB
SUR-BEX® with C
Table bottle of 60
Bottles of 100, 500 and 1000

Therapeutic formula of the essential B-complex plus C, for convalescence, stress, post-surgery, etc.

EACH DAYTEENS FILMTAB® REPRESENTS:

Vitamin A	(5000 units) 1.5 mg.
Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg
Vitamin B_{12} (as cobalamin concentrate)	2 mcg.
Calcium Pantothenate	5 mg
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

VITAMINS by ABBOTT

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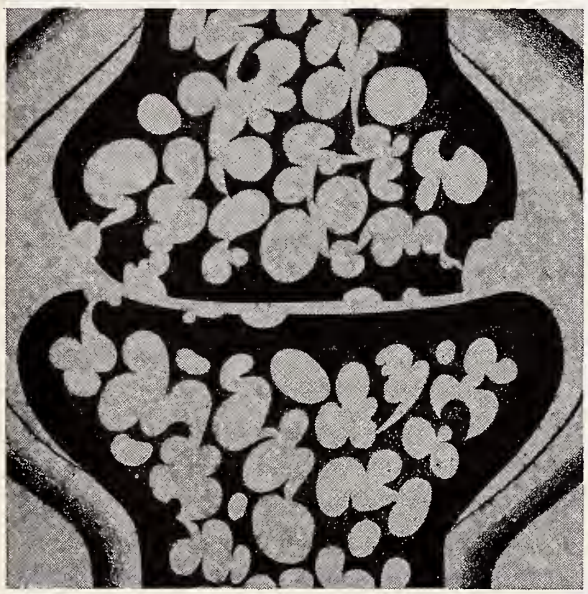
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in rheumatic disorders

whenever aspirin proves inadequate



Sterazolidin®
brand of prednisone-phenylbutazone



Even in the more transient rheumatic disorders, an anti-inflammatory effect more potent than that provided by aspirin is often desirable to hasten recovery and get the patient back to work.
By combining the anti-inflammatory action of prednisone and phenylbutazone, Sterazolidin brings about exceptionally rapid resolution of inflammation with relief of symptoms and restoration of function.
Since Sterazolidin is effective in low dosage, the possibility of significant hypercortisonism, even in long-term therapy, is substantially reduced.



Availability: Each Sterazolidin® capsule contains prednisone 1.25 mg.; Butazolidin®, brand of phenylbutazone, 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; and homatropine methylbromide 1.25 mg. Bottles of 100 capsules.

Geigy, Ardsley, New York

Geigy

165-60

"Gratifying" relief from

for your patients with
'low back syndrome' and
other musculoskeletal disorders

POTENT muscle relaxation

EFFECTIVE pain relief

SAFE for prolonged use

stiffness and pain

"gratifying" *relief from stiffness and pain in 106-patient controlled study (as reported in J.A.M.A., April 30, 1960)*

"Particularly gratifying was the drug's [SOMA's] ability to relax muscular spasm, relieve pain, and restore normal movement . . . Its prompt action, ability to provide objective and subjective assistance, and freedom from undesirable effects recommend it for use as a muscle relaxant and analgesic drug of great benefit in the conservative management of the 'low back syndrome'."

Kestler, O.: Conservative Management of "Low Back Syndrome", J.A.M.A. 172: 2039 (April 30) 1960.

FASTER IMPROVEMENT—79% complete or marked improvement in 7 days (Kestler)

EASY TO USE—Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

SUPPLIED: 350 mg., white tablets, bottles of 50.
For pediatric use, 250 mg., orange capsules, bottles of 50.

Literature and samples on request.

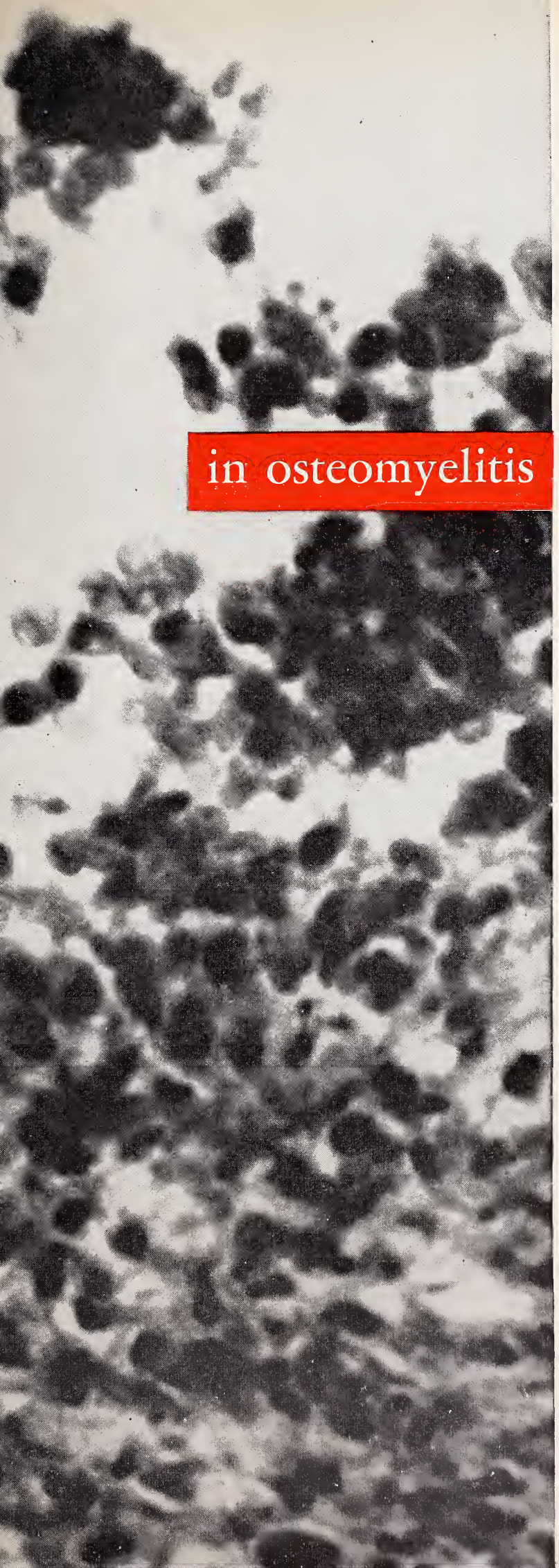
SOMA®

(CARISOPRODOL, WALLACE)

WALLACE LABORATORIES, CRANBURY, NEW JERSEY



Bone section: erosion and purulent exudate



Therapeutic confidence

Panalba is effective against more than 30 commonly encountered pathogens including ubiquitous staphylococci. Right from the start, prescribing it gives you a high degree of assurance of obtaining the desired anti-infective action in this as in a wide variety of bacterial diseases.

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

*Trademark, Reg. U. S. Pat. Off.

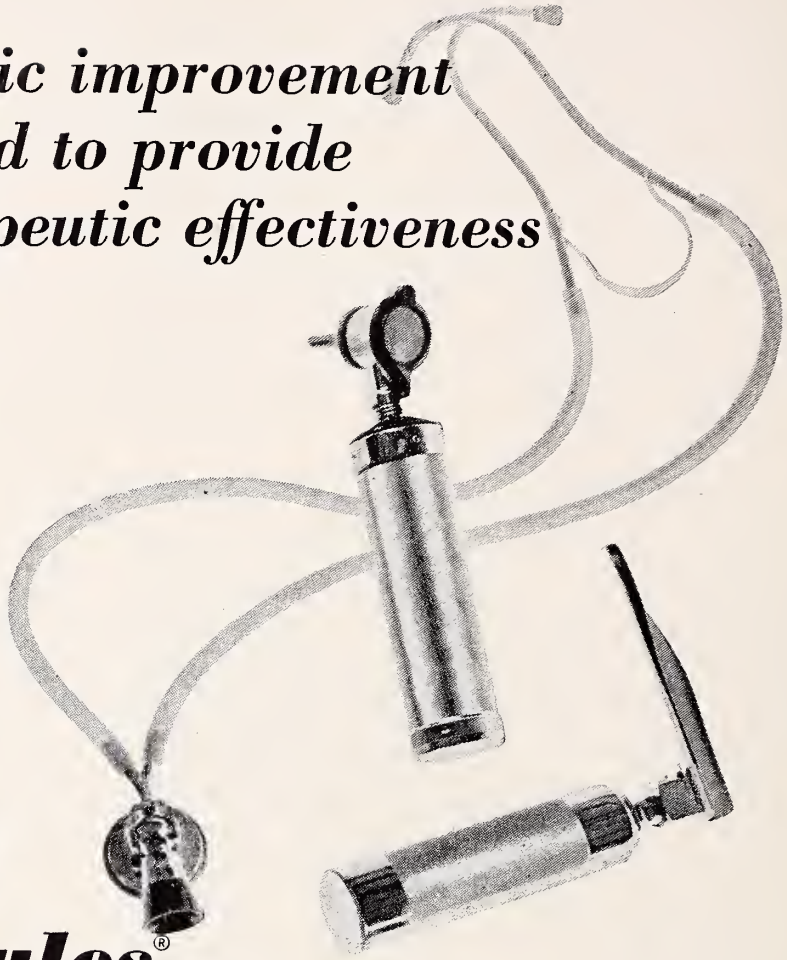
The Upjohn Company
Kalamazoo, Michigan

Upjohn

Panalba*

your broad-spectrum antibiotic of *first* resort

an antibiotic improvement designed to provide greater therapeutic effectiveness



now Pulvules® Ilosone®

(propionyl erythromycin ester lauryl sulfate, Lilly)

in a more acid-stable form assure adequate absorption even when taken with food

Ilosone retains 97.3 percent of its antibacterial activity after exposure to gastric juice (*p*H 1.1) for forty minutes.[1] This means there is more antibiotic available for absorption—greater therapeutic activity. Clinically, too, Ilosone has been shown[2,3] to be decisively effective in a wide variety of bacterial infections—with a reassuring record of safety.[4]

Usual dosage for adults and for children over fifty pounds is 250 mg. every six hours.
Supplied in 125 and 250-mg. Pulvules and in suspension and drops.

1. Stephens, V. C., *et al.:* J. Am. Pharm. A. (Scient. Ed.), *48:*620, 1959.
2. Salitsky, S., *et al.:* Antibiotics Annual, p. 893, 1959-1960.
3. Reichelderfer, T. E., *et al.:* Antibiotics Annual, p. 899, 1959-1960.
4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

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Original Articles

Arizona Medicine

Vol. 17, No. 12 December, 1960

The Use of Electrophoresis in Clinical Medicine

Maurice Rosenthal, M.D.
Mary L. Wagner, B.S.

The authors have succeeded admirably in their attempts ". . . to present a concise and critical resume of the use of electrophoresis in clinical medicine with special reference to its most advantageous diagnostic and prognostic usage." The Bibliography is excellent. It is unusual to see bibliographic reference to THE YEAR BOOK OF MEDICINE, but here it is exemplary.

C.L.R.

THIS article has been compiled from pertinent literature and results of over 7,500 electrophoretograms done in our laboratory.* Its aim is to present to the practicing physician a summary of the usage of paper electrophoresis in clinical medicine.

With the exception of hypogammaglobulinemia, multiple myeloma, the nephrotic syndrome and uncomplicated cirrhosis, electrophoretograms are not, in themselves, diagnostic. However, in many instances the protein patterns will exhibit some characteristic deviations which may be of diagnotstic or prognostic value when considered with the patient's clinical history and physical findings.

HYPOGAMMAGLOBULINEMIA AND AGAMMAGLOBULINEMIA

Hypogammaglobulinemia is a condition characterized by inadequate production of antibodies, rendering the patient susceptible to numerous infectious diseases, especially upper respiratory infections which respond poorly, if at all, to antibiotic therapy. Hypogammaglobulinemia may occur in children and adults. The disease appears to be both hereditary and acquired.

Agammaglobulinemia is a rare condition in which the gamma globulin and subsequently the

*The Diagnostic Laboratory, Phoenix, Arizona. An Ivan Sorvall horizontal paper electrophoresis apparatus was used employing a barbital buffer, pH 8.6, ionic strength 0.075 with a migration time of 18 hours at 2.5-3 mA. Calculations were made with a Spinco Model RB Analytrol and total proteins were done refractometrically.

disease fighting antibodies are almost completely lacking. Minute traces of gamma globulin are electrophoretically demonstrable by some methods in this disease. In over 7,500 electrophoretic studies in our laboratory only five cases of agammaglobulinemia have been encountered.

Since the gamma globulin fraction is a composite of many proteins and protein antibody fractions, many of which are unknown, the value of the gamma globulin obtained by an electrophoretic pattern must be closely coordinated with the evaluation of the patient's clinical history. A very slight decrease of gamma globulin does not necessarily imply that the patient is lacking antibodies, unless the clinical picture supports this point of view. Conversely, a normal gamma globulin does not presuppose a sufficient antibody response. However, electrophoretic studies in hypogammaglobulinemia have shown sufficient decreases of the gamma globulin to be useful as a rough estimate of the severity of the disease and its response to therapy.

PROTEIN DEVIATIONS IN INFECTION AND INFLAMMATION

Perhaps the most common protein deviations encountered are those which are consistent with infectious and inflammatory processes. An increased alpha-II globulin is characteristic in these protein patterns and is usually, except in mild inflammation or infection, accompanied by an albumin decrease. Depending upon the severity of the process, the beta globulin decreases, the gamma globulin may increase and the A/G ratio may become inverse.

Among the infectious and inflammatory diseases in which electrophoretograms have proved of value are pulmonary tuberculosis, syphilis, and active ulcerative colitis.

In pulmonary tuberculosis it has been found that a progressive decrease of albumin, along with a progressive increase of alpha-II globulin, is indicative of the increasing activity and extent of the disease. As the disease becomes quiescent, or is brought under control with antituberculosis drugs, these fractions return to normal. Gilliland, Johnson, et al.(1) consider the serum protein changes to be a far more sensitive index than the conventionally used sedimentation rate.

Electrophoretic patterns in syphilis exhibit an albumin decrease and an increase of the alpha-II and gamma globulin fractions. Successful treatment of the disease returns these fractions to normal(2), thus providing an indication of the patient's progress under treatment.

In active ulcerative colitis the protein changes are consistent with those found in severe inflammation. Case studies(3) indicate that the protein changes exhibit a quantitative variation with the severity of the disease.

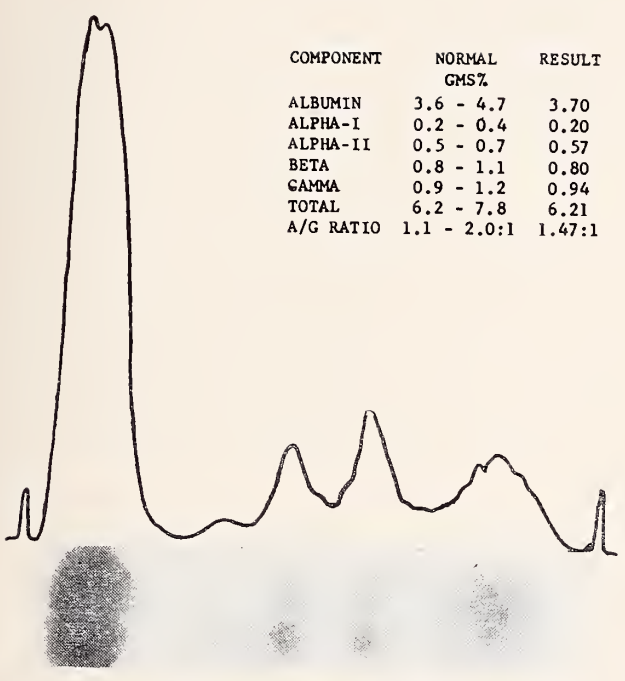
Space does not permit the recording of the utilization of electrophoretograms in all of the pathological conditions of an infectious or inflammatory nature. Only a few representative diseases have been cited in order to convey some idea of the usage of electrophoretograms in following the progression of these disorders.

KIDNEY DISEASES

Glomerulonephritis and pyelonephritis do not produce diagnostic electrophoretograms. However, renal pathologic changes of either type characteristically exhibit an albumin decrease and an alpha globulin increase. The beta and gamma globulins may be normal, slightly increased or decreased. When glomerulonephritis progresses into the nephrotic syndrome a diagnostic protein pattern emerges. The albumin decrease becomes more severe, the beta and gamma globulins steadily decrease, and the alpha globulins comprise an increasingly larger percentage of the total protein. In terminal cases the total protein has been seen to fall as low as 1.5-2.0 gm. % with the alpha globulins constituting 40-60% of the total protein.

Lipoid nephrosis exhibits essentially the same protein changes seen in the nephrotic syndrome. However, lipoid nephrosis may usually be distinguished by a relative increase of beta globulin.(4)

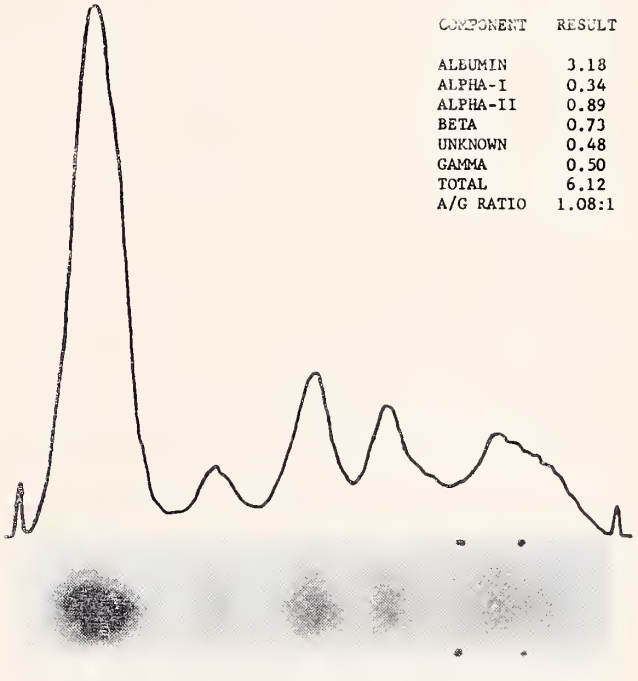
The serum protein pattern of uremia is consistent with those found in the infectious and inflammatory processes previously described. An increase of alpha II globulin always accompan-



COMPONENT	NORMAL GMS%	RESULT
ALBUMIN	3.6 - 4.7	3.70
ALPHA-I	0.2 - 0.4	0.20
ALPHA-II	0.5 - 0.7	0.57
BETA	0.8 - 1.1	0.80
GAMMA	0.9 - 1.2	0.94
TOTAL	6.2 - 7.8	6.21
A/G RATIO	1.1 - 2.0:1	1.47:1

FIGURE 1 NORMAL: This pattern is representative of average normal protein patterns. The graph is a reproduction of the actual analytrol graph obtained from the stained protein pattern. The 1 cm. peaks preceding the albumin and following the gamma globulin are made to insure correlation between the graph and strip.

1.



COMPONENT	RESULT
ALBUMIN	3.18
ALPHA-I	0.34
ALPHA-II	0.89
BETA	0.73
UNKNOWN	0.48
GAMMA	0.50
TOTAL	6.12
A/G RATIO	1.08:1

FIGURE 7 UNKNOWN PROTEIN: The abnormal protein in this pattern exhibits the migration characteristics of a myeloma protein. Intensive study of this patient ruled out myeloma, cryo- and pyro-globulins. This unclassified abnormal protein illustrates the possibility of erroneous interpretation of an electrophoretogram exhibiting small amounts of abnormal protein.

2.

ics this condition and it has been theorized that the alpha II globulin increase is due to pathological changes of the renal parenchyma. Increase of alpha II globulin, non-protein nitrogen and creatinine are apparently co-existent.(5)

In the kidney diseases alleviation of inflammation and subsequent tissue repair is heralded by a reversion of the protein fractions toward normal. In this respect electrophoretograms may be considered as valuable as any other kidney function test in following the regression of the disease.

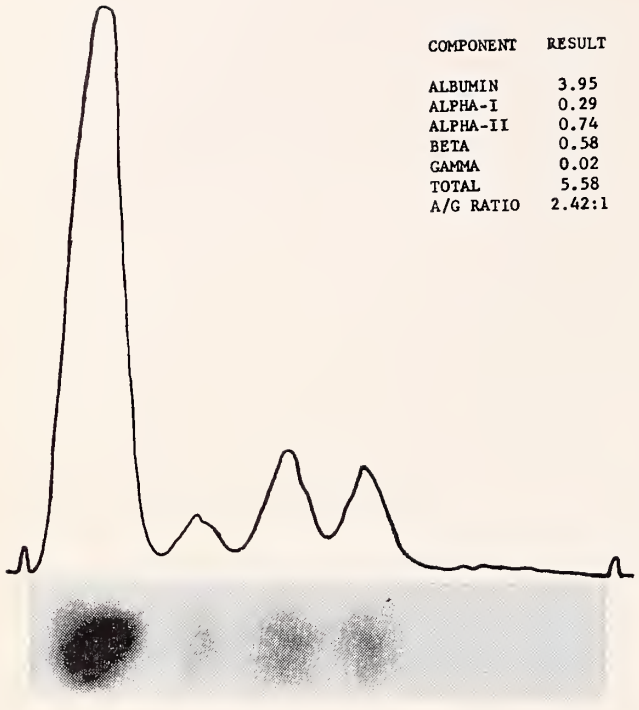
LIVER DISEASES

In liver disease electrophoretograms may, at times, reveal as much or more than a battery of liver function tests. In hepatocellular damage the albumin and one or both of the alpha globulin fractions will be decreased. In all other diseases associated with an albumin decrease, the alpha globulins will be normal or increased(6). (We have found that this pattern may occur when clinical manifestations of hepatocellular damage are practically negligible.)

Electrophoretic patterns which may aid in the differentiation of liver disease are those found in cirrhosis, xanthomatous biliary cirrhosis, fatty liver, viral hepatitis, cholelithiasis, cholecystitis, and cholestasis.

Laennec's cirrhosis produces a striking electrophoretogram which may well be considered diagnostic. The albumin and beta globulin fractions are moderately to markedly decreased; the alpha globulins are decreased; the gamma globulin shows a moderate to marked increase and the A/G ratio is inverse. In the stained protein pattern the beta and gamma globulins are practically fused together, due to the increase of lipoproteins, and the entire pattern shows a characteristic tear-drop shape(7-8).

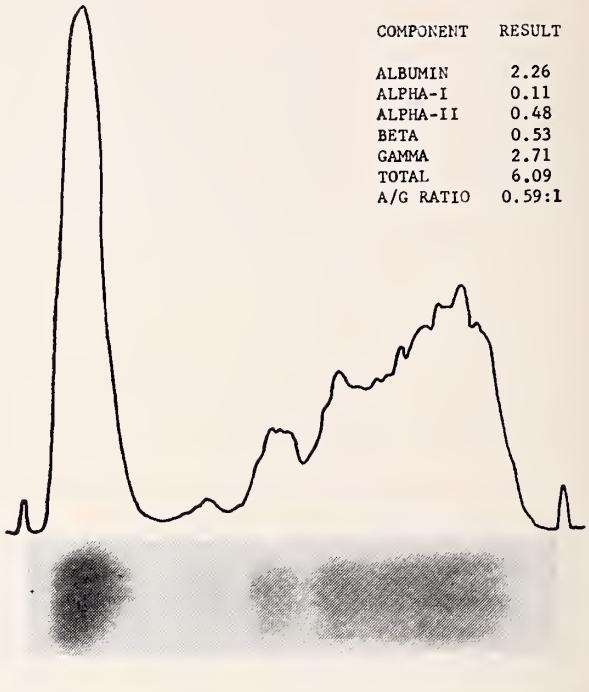
The acute hepatocellular degeneration associated with many other liver diseases produces a pattern similar to that of cirrhosis; the protein aberrations may vary slightly and the pattern may or may not exhibit a tear-drop shape. Xanthomatous biliary cirrhosis may be distinguished by an increased beta globulin. In this disease the beta globulin has been seen to increase up



COMPONENT	RESULT
ALBUMIN	3.95
ALPHA-I	0.29
ALPHA-II	0.74
BETA	0.58
GAMMA	0.02
TOTAL	5.58
A/G RATIO	2.42:1

FIGURE 2 AGAMMAGLOBULINEMIA: Electrophoretic studies were made on thisadult female patient for several years. Her response to gamma globulin therapy was poor and a satisfactory serum gamma globulin level was never maintained. This patient eventually succumbed to the many infectious processes to which she was subject.

3.



COMPONENT	RESULT
ALBUMIN	2.26
ALPHA-I	0.11
ALPHA-II	0.48
BETA	0.53
GAMMA	2.71
TOTAL	6.09
A/G RATIO	0.59:1

FIGURE 5 CIRRHOSIS: This pattern is typical of the protein aberrations due to the severe hepatocellular damage occurring in cirrhosis. Note the decrease of albumin and alpha globulin fractions and the marked increase of gamma globulin which is characteristic of liver cell damage. In the stained protein pattern the fusion of the beta and gamma globulins is due to an increase of lipoproteins.

4.

to 1.7 gm.%(6). A beta globulin increase may alco occur in fatty liver. In the cirrhotic stage fatty liver reveals the protein pattern of cirrhosis but again the beta globulin shows higher levels than in cirrhosis alone.

The alpha globulins, especially the alpha II globulin, are increased in viral hepatitis, superimposing a pattern of infection and inflammation over the usual protein changes produced by the liver disease. In the presence of jaundice this pattern is suggestive, but cannot be considered as conclusive. Cholelithiasis, cholecystitis and cholestasis may also present patterns of this same general configuration. In the latter diseases, if the toxic hepatic injury is slight and the necrotic tissue areas are small, the electrophoretograms will yield patterns of the inflammatory type; but if the hepatic injury is more extensive, the electrophoretic pattern will be indistinguishable from that of hepatitis. In hepatic disorders due to extra-hepatic biliary obstruction, mechanical injury, or infection, the alpha globulins may be elevated. In the case of biliary obstruction the elevated alpha globulins may be the only change occurring in the protein pattern. In obstruction where the hepato-cellular damage is slight, no significant changes in the serum proteins are seen and a normal pattern may occur(7).

The evaluation of the gamma globulin fraction in an electrophoretogram is of more prognostic value than other liver function tests. Normally the liver produces very little gamma globulin, but in liver dyscrasias the stimulation of the hepatic mesenchyme, or stimulation of extra-hepatic mesenchyme by hepatic cell breakdown products, causes an abnormal increase of gamma globulin. This abnormal production of gamma globulin is proportional to the degree of tissue damage and a marked hypergammaglobulinemia in hepatic disease signifies a poor prognosis(7).

The gamma globulin fraction may also be indicative of more severe manifestations occurring as a complication in the liver diseases in which hepatocellular damage is usually slight. Hepatic obstruction does not usually produce an increase of gamma globulin unless accompanied by a

moderate degree of liver cell damage. The transition of viral hepatitis into cirrhosis may be heralded by a persistent increase of gamma globulin after other liver survey tests return to normal and the acute clinical symptoms have disappeared(7).

The decreased levels of albumin found in liver diseases are also a measure of hepatocellular damage since the synthesis of this protein occurs in the liver. However, the albumin levels are of far less prognostic value since liver disease is often complicated by loss of albumin associated with ascites, edema and albuminuria.

It must be stressed that in order to utilize an electrophoretic pattern to its best advantage, whether in liver or any other disease, there are some considerations which must be included in the evalution of an electrophoretogram. Since the general types of patterns into which protein changes must fall are few, the presence of more than one disease or complication will invariably produce a confusing electrophoretogram of obscure significance. For example, congestive heart failure, arteriosclerotic heart disease, the collagen diseases and some liver diseases produce the same general changes in the protein pattern, that is; decreased albumin, increased gamma globulin, and an apparent lipoprotein increase. The A/G ratio is inverse. Slight differences do exist in the protein fractions in these diseases; but when hepatic disorder is suspected in the presence of one of the diseases exhibiting this general pattern, it is impossible to ascertain whether the protein changes are manifested entirely by one disease or are due to the combined action of both diseases. The existence of severe complications or more than one disease will, with few exceptions, usually invalidate the use of electrophoresis as a reliable prognostic or diagnostic tool.

Another factor, which must also be considered, is that not too infrequently a normal gamma globulin may be found in liver disease even in the presence of jaundice. Reported cases of this occurrence include the early phase of acute hepatitis, hepatic amyloidosis, fatty liver in hepatic failure, metastatic carcinoma and lymphoma.

NEOPLASTIC DISEASES AND ALLIED DISORDERS

Electrophoretic studies did not meet the expectation that they would be of diagnostic value in neoplastic diseases. The primary alterations of the serum protein fractions in neoplastic disorders are decreased albumin and increased alpha and gamma globulins. This pattern represents a common response to many metabolic, infectious and functional disorders. This renders these patterns almost entirely non-specific(9-10). Mider(11) has studied electrophoretic patterns in 258 cases of neoplastic diseases and allied disorders. His studies indicate that patterns with decreased albumin and increased alpha globulins are consistently found in neoplastic diseases*, and that the severity of these protein aberrations increases as the disease progresses. Even though these protein abnormalities are consistent, the existing consensus of opinion is that the prognostic value of electrophoretic patterns is very limited in neoplastic disease. For these protein changes are considered as a measure of the overall status of the patient and cannot be used as a specific measure of solid tumor growth or regression(12).

Electrophoresis has been shown to be of some prognostic value in Hodgkins disease and multiple myeloma. Jones(13) cites cases of multiple myeloma under chemotherapy in which both the clinical condition and the serum proteins were returned to a normal status. Wall(14) and Arends(15) in separate investigations have shown that in Hodgkins disease successful irradiation and chemotherapy or spontaneous remission revert the serum proteins to normal; and that a relapse of inactive Hodgkins disease was heralded by significant increase of the alpha II and gamma globulins. These changes often occurred even before lymph node masses became obvious.

ABNORMAL PROTEIN FRACTIONS

Increasing usage of electrophoresis in clinical medicine has brought about the recognition of several abnormal protein fractions. The abnormal proteins exhibit properties different from the normal protein fractions and have been shown to be the causative factor of some diseases and the effect in others. These abnormal proteins migrate with the globulin fractions, and

*Our studies of neoplastic diseases correlate with Mider's in one respect. When the alpha globulins are both elevated and the alpha I globulin fraction is increased to 0.5 gm.% or above a neoplastic process was discernible in approximately 80% of the cases exhibiting these protein deviations. However, none of these cases could be classified as early neoplasms.

are most often seen in the gamma globulin position. Abnormal proteins are demonstrable in electrophoretic patterns and are manifested either as a distinct protein fraction which is distinguishable from the normal globulins (i.e. myeloma protein), or as a consistent non-pathognomonic increase of a normally occurring globulin fraction.

Of these abnormal proteins, the macroglobulins and cryoglobulins have received wide spread attention in the last several years. Increasing evidence indicates that these proteins occur in a large number of disease states. The macroglobulins are technically defined as high molecular weight (1,000,000 or over) globulins possessing an ultracentrifuge S^f constant of 15 or more and usually averaging around 19(16-17). The 19 S^f constant globulins usually migrate with the alpha II and gamma globulins(17). However, the macroglobulins may also occasionally migrate in the beta globulin position(16).

Ultracentrifuge studies have shown that the 19 S^f macroglobulins are normally present in small amounts in human sera ranging from 0.2 gm.% to 0.4 gm.%. Macroglobulinemia is a polyctiological syndrome which may occur in many diseases. Increased amounts of macroglobulins have been demonstrated in liver cell damage, nephrosis, leukemia, rheumatoid arthritis, carcinoma, lupus erythematosus, and arteriosclerotic heart disease(17). The pathologic manifestations of the macroglobulins in these diseases are not yet known. The only pathological conditions yet described in which the macroglobulins play an important role are the macroglobulenemic purpuras.

"Waldenstroms macroglobulinemia" was the first clinical disease entity described in which the macroglobulins are considered as a causative agent. The disease is characterized by lassitude, dyspnea, and mucosal hemorrhage. Physical examination reveals pallor, edema, painless, slightly enlarged lymph nodes, slight hepatosplenomegaly and epistasis. Electrophoretic studies reveal a consistent, marked increase of the gamma globulin fraction. Although it is difficult to establish the difference between macrogammaglobulinemia and hypergammaglobulinemia in the electrophoretic pattern, some differences can be discerned which may give an indication of the nature of the gamma globulin increase. If the macroglobulins are present in clinically significant amounts the gamma globulin fraction in which they migrate will show a discrete peak. If the macroglobulins are not present in significant amounts the gamma globulin peak is broad and not discrete(16-20). Comparisons of patterns, in which macroglobulin increases are known to occur, with patterns exhibiting increased fractions not due to macroglobulins have consistently substantiated this observation.

Since Waldenstrom's hemorrhagic macroglobulinemia has been recognized as a disease entity, many other cases of hemorrhagic diseases associated with macroglobulinemia have been reported(16,18,19,20). Macroglobulinemia may be the cause of many thrombotic, hemorrhagic, and purpuric syndromes which occur during the course of diseases affecting the reticulo-endothelial system.

Henstell(18) and others(16,20) have attempted to prove the mechanism of the syndromes which are characterized by macroglobulinemia. The general consensus is that the macroglobulins interfere with the formation of fibrin by absorbing some of the clotting factors upon the abnormal globulin. Henstell described a thrombo-hemorrhagic-diathesis in which some evidence was given for this theory. It is believed that, in the case of this diathesis, the clotting factors go in and out of combination with the macroglobulins. When the clotting elements are in combination with the macroglobulins, the situation is predominately hemorrhagic. When these clotting elements are released from the combination, the situation is predominantly thrombotic. These observations were supported by laboratory measurements of the clotting factors*.

In the diagnosis of these syndromes, which may either be due to macroglobulinemia or hypergammaglobulinemia(20), ultracentrifuge studies are not always readily obtainable, and since paper electrophoretic separation has been extensively used in the study of these diseases, they have been proven to be a fairly reliable screening test for the presence of macroglobulinemia.

*Henstell's thrombo-hemorrhage-diathesis is not to be confused with congenital hemorrhagic diathesis. See American Journal of Medicine, Vol. 20, pp. 798-805, 1956.

COMPONENT	RESULT
ALBUMIN	1.99
ALPHA-I	0.19
ALPHA-II	1.42
BETA	0.97
GAMMA	0.45
TOTAL	5.02
A/G RATIO	0.65:1

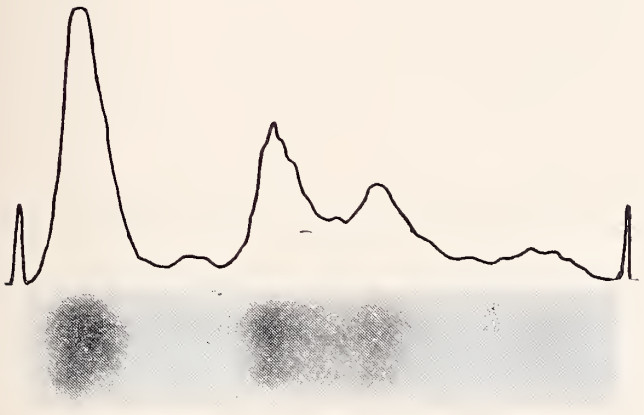


FIGURE 4 NEPHROSIS: This serum pattern is representative of the nephrotic syndrome of glomerular nephritis. An electrophoretic study of the urine was run simultaneously on this patient. The urine electrophoretogram revealed a loss of 1.23 albumin; 0.13 alpha-I globulin; 0.16 beta globulin; and 0.02 gm/100 ml. gamma globulin.

5.

COMPONENT	RESULT
ALBUMIN	1.73
ALPHA-I	0.48
ALPHA-II	0.96
BETA	0.60
GAMMA	2.33
TOTAL	6.10
A/G RATIO	0.39:1

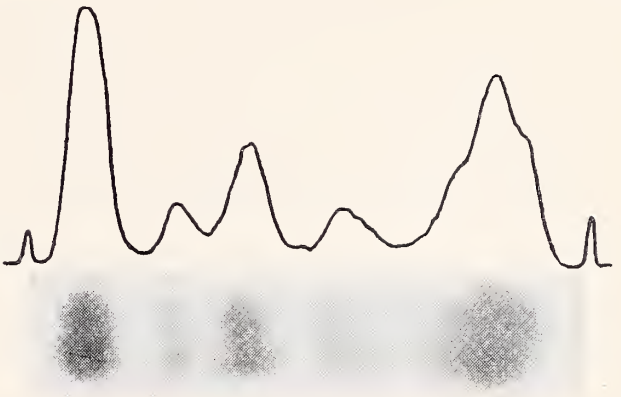


FIGURE 8 MACROGLOBULINEMIA: This macroglobulinemia was discovered in a child with disseminated coccidiomycosis. The distinct peak in the analytrol graph along with the round configuration of the gamma globulin fraction is indicative of a macroglobulin increase. (See text)

6.

Cryoglobulins are technically defined as globulins precipitated by cold (precipitation occurs around 5°C). Their formation may be related to an immunological process which effects all or part of the gamma globulin. Electrophoretically the cryoglobulins migrate in the gamma position and clinically significant amounts may be demonstrated in the serum protein patterns(16,21).

Cryoglobulinemia is also a polyetiological syndrome which may occur during the course of many diseases. It may be classified as essential cryoglobulinemia in which the underlying cause is obscure, or as secondary cryoglobulinemia in which the formation of the cryoglobulin is related to a known disease. Secondary cryoglobulinemia may occur in multiple myeloma, kala-azar, disseminated lupus erythematosus, coronary artery disease, sub-acute bacterial endocarditis, periarteritis nodosa, rheumatoid arthritis, lymphosarcoma, lymphatic leukemia, polycythemia vera rubra, and hepatic cirrhosis (21).

Some of the clinical manifestations of cryoglobulinemia include cold sensitivity, purpura, nasal and oral hemorrhage, dyspnea, abdominal distress with hepato-splenomegaly, melaena, atypical Raynaud's phenomenon, gangrene of the extremities, mottling of lower extremities, cyanosis, stomatitis, diarrhea, deafness, arterial and venous occlusion; and pulmonary vascular sclerosis may occur due to the deposit of cryoglobulins(16,21,22).

The suspected presence of a cryoglobulin in an electrophoretic pattern may be confirmed by cold precipitation or electrophoretic studies before and after cold precipitation of the cryoglobulins. Quantitation of the cryoglobulin may be achieved by electrophoretic studies before and after cold precipitation or by the "cryocrit" method of Mackley(16). The cryoproteins are not entirely restricted to the globulin fractions. Cases of cryofibrinogenemia have also been reported. (The clinical effects of this disease appear to be primarily thrombotic.)

As early as 1933, Wintrobe(23) accurately described a case of retinal thrombosis and accompanying symptoms of Raynaud's disease. The

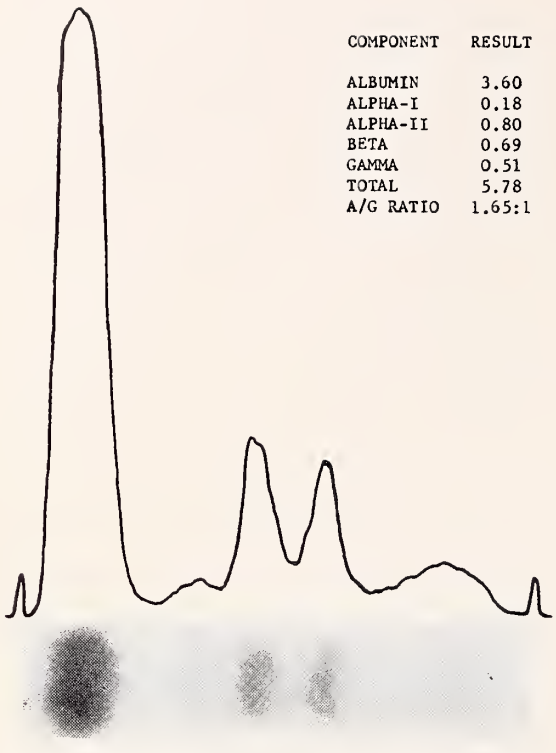


FIGURE 3 HYPOGAMMAGLOBULINEMIA: This pattern is typical of the hypogammaglobulinemia found in children. In the majority of cases studied the gamma globulin ranged between 0.5 and 0.75 gm.%. An increased alpha-II globulin is frequently found due to the repeated infectious and inflammatory processes occurring in this disease.

7.

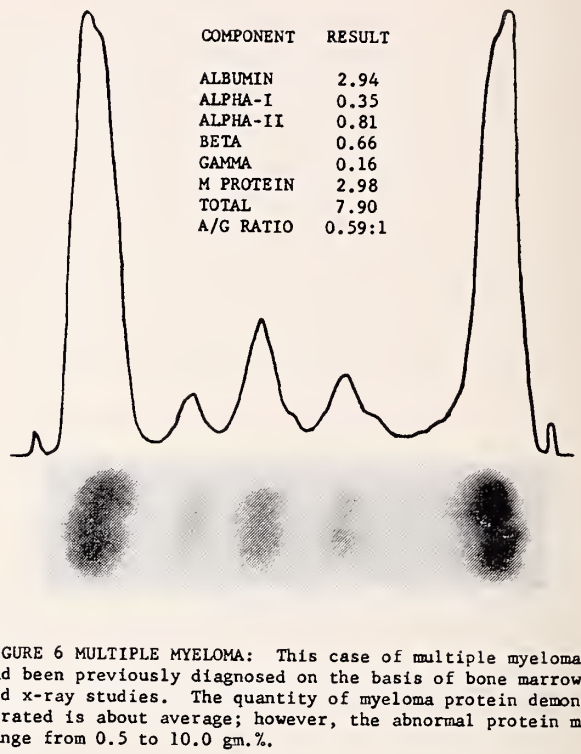


FIGURE 6 MULTIPLE MYELOMA: This case of multiple myeloma had been previously diagnosed on the basis of bone marrow and x-ray studies. The quantity of myeloma protein demonstrated is about average; however, the abnormal protein may range from 0.5 to 10.0 gm.%.

8.

symptoms in this case compare with the now recognized symptoms of secondary cryoglobulinemia. From past and present recognition of the diverse manifestations of cryoglobulinemia, it is becoming increasingly evident that this syndrome is not, nor has been in the past, a rare occurrence in clinical medicine. The advent of electrophoresis and other laboratory procedures has only increased the awareness of its occurrence. The presence of a cryoglobulin may also indicate the presence of macroglobulins since these abnormal proteins often occur together (16,20,21), presenting clinical manifestations of both the cryo- and macroglobulins.

Pyroglobulinemia is the antithesis of cryoglobulinemia. The pyroglobulins are precipitated or gelled in the presence of heat (40-60°F) and most often occur in cases of multiple myeloma. However, these heat-cogulable globulins may be present in pathological conditions not related to myeloma(24). The clinical symptoms occurring in the presence of pyroglobulinemia are similar to some of those which are co-existent with cryoglobulinemia. Pyroglobulins have been associated with a few diseases, such as lymphosarcoma, but in some cases pyroglobulins were present in clinically healthy individuals. (Hyperglobulinemia occasionally being the only abnormal finding(24).) Unfortunately the study of the pyroglobulins has been very limited, and very little is known about the heat coaguable globulins.

Myeloma proteins are perhaps the most widely recognized abnormal proteins encountered in electrophoretic studies. The myeloma protein of the serum and the Bence Jones protein of the urine are high molecular weight proteins, however, their molecular weight is much less than either the macro- or cryoglobulins. The myeloma protein of the serum possesses a molecular weight of 160,000-200,000(25) and the Bence Jones protein of urine has a molecular weight of approximately 37,000(24). It has been suggested that Bence Jones protein may be a precursor or an abortive product of serum myeloma globulin synthesis. Bence Jones protein occurs in both urine and blood(26). Its occurrence in the urine, in the absence of abnormal serum proteins, does not always conclude a myeloma(24). (Bence Jones protein may also occur in the serum and may not be demonstrable in

the urine(26).)

When serum myeloma proteins are present in sufficient concentration to be electrophoretically demonstrable, they may migrate in any of the globulin regions from alpha to gamma. The myeloma protein most commonly migrates in the gamma globulin region. Very occasionally the myeloma protein may migrate in the beta position and on very rare occasions in the alpha position.

The quantity of abnormal serum protein does not seem to correlate with the severity of the clinical manifestations. In two cases of previously undiagnosed multiple myeloma encountered by the authors, the myeloma protein exceeded 7 gm.%.

In addition to the recognized macroglobulins, cryoglobulins and myeloma proteins, the authors have been fortunate enough to observe several cases in which the small quantities of abnormal protein could not be classified as cryoglobulins, or myeloma proteins, nor did they exhibit the symptomatology of macroglobulinemia. In one such case an abnormal protein was demonstrated three times on two different serum samples. At this time the only gross abnormal physical finding was an enlarged liver. Over a month later the liver enlargement had regressed and the abnormal protein was not demonstrable. Another patient, who subsequently went to Mayo Clinic, exhibited a persistent unexplainable abnormal protein. This patient had suffered a severe reaction to a scorpion sting some time previously. Another patient who suffered from auto-agglutination also exhibited an abnormal protein.

Since these abortive proteins can occur and disappear from some obscure disturbance of protein metabolism it must be concluded that a diagnosis of multiple myeloma or cryoglobulinemia must be carefully considered in patients exhibiting small quantities of abnormal serum proteins.

SERUM LIPOPROTEINS

Within the last few years paper electrophoresis has been used extensively in the study of atherosclerosis. The ultimate aim of the fervent research conducted in the field of lipid chemistry and electrophoresis is to detect and predict the coronary artery diseases which are pathologically related to lipid transport and metabolism. The serum proteins, stained by the usual methods (i.e. bromphenol blue) have not been found to be of any value in either the diagnosis or the prognosis of atherosclerotic disease. When the electrophoretically separated serum proteins are stained with a lipid dye, a characteristic pattern emerges which is representative of the lipid content of the serum proteins. Although small amounts of lipids migrate in association with all of the serum protein fractions, the fractions which seem to be an index of atherogenic activity are the alpha and beta lipoproteins(27,28). The alpha lipoprotein migrates in the region of the albumin and alpha I globulin. The beta lipoprotein migrates in the beta globulin position. The alpha and beta lipoproteins carry almost all of the serum lipids. The alpha lipoprotein (under normal conditions) is composed of 50% protein, 25% cholesterol, and 25% phospholipid; the beta fraction is 25% protein, 50% cholesterol, and 25% phospholipid(29). Electrophoretic and other studies (ultracentrifuge, chemical analysis) have associated the occurrence of atherogenic activity with abnormalities occurring in the serum lipoproteins. In electrophoretic studies an increased beta lipoprotein and a decreased ratio of alpha lipoprotein to total lipoprotein has been found in atherosclerosis(27-28).

Smith(30) has compared the sera of normal patients and those with peripheral and coronary artery diseases and has demonstrated a pre-beta-lipid fraction in association with myocardial infarction. However, the demonstration and quantitation of this fraction has no definitive value.

Lipoprotein studies have not been used to any great extent as a routine clinical procedure. There are a number of reasons for its restricted use. Research has continued at such a fast pace that methodology almost becomes obsolete by the time it is published. The terminology and normal values are not consistent and may not, in many instances, be comparable with other results in the same field of endeavor. Staining methods are expensive, tedious and difficult to standardize, making them impractical for routine usage. In addition to the wide variation of methodology, electrophoetic separation of the

CHART A

CONDITION	RACIAL PREDOMINANCE	DEMONSTRABLE HEMOGLOBINS	COURSE	SICKLE CELL PHEN.	TARGET CELLS	HYPOCHROMIA	MICROCYTOSIS	ALKALI*** DENATURIZATION FETAL HEMOGLOBIN AS % TOTAL HGB.
Normal		A						Less than 5%
Sickle Cell disease	Negro	S	Severe	Pos.	+	Slight		Up to 40%
Sickle Cell trait	Negro	A/S	Asymptomatic	Pos.	±			
Sickle Cell-Thal	Italian-Greek Negro* Mex.	A/S**	Severe	Pos.	+++	Marked	Marked	Up to 20%
Sickle Cell-C	Negro	S/C	Mod.to severe	Pos.	+++	Slight-Mod.	Slight	Up to 10%
Sickle Cell-D	Negro, Indian Caucasian	S/D	Mod.to severe	Pos.	+	Slight	Slight	
Sickle Cell-G	Negro	S/G	Asymptomatic	Pos.	±			
Hgb-C disease	Negro	C	Moderate		++++	Very slight	Very slight	Up to 7%
Hgb-C trait	Negro	A/C	Asymptomatic		+++			
Hgb-C Thal	Negro	A/C	Mild		+++	Very slight	Slight	
Hgb-D disease	Negro, Indian Caucasian	D	Mild		++	Slight	Slight	
Hgb-D trait	Negro	A/D	Asymptomatic					
Hgb-E disease	Orientals	E	Mod.-severe		++-+++		Slight-Mod.	May be slightly over 5%
Hgb-E trait	Orientals	A/E	Asymptomatic					
Hgb-E Thal	S.E. Asians	A/E	Mod.-severe		+++	Moderate	Marked	Up to 40%
Hgb-G disease	Negro	G	Asymptomatic					
Hgb-G trait	Negro	A/G	Asymptomatic					
Hgb-H Thal	Chinese	A/H	Mod.-severe		+	Slight	Slight	
Hgb-I trait	Negro	A/I	Asymptomatic					

* Rare in the Negro race.
** Thalassemia hemoglobin denoted A_2 demonstrable only by starch electrophoresis.
*** Some authors report these percentages in lower values than stated here; however, Huisman, Clin.Chem.; 3:382, 57 expresses doubt that the current methods are suitable for the quantitation of percentages lower than 5%.

lipoproteins has not yet shown consistent abnormalities which may be of value in the diagnosis of atherogenic activity.

ANEMIA AND ABNORMAL HEMOGLOBINS

Electrophoretic studies have unveiled the underlying inborn errors of a number of idiopathic anemias. A case of unexplained anemia has been attributed to a beta globulin abnormality. In this case the beta globulin fraction was not electrophoretically demonstrable(31). Since the beta globulin carries the iron binding globulin, transferrin or siderophyllin, the absence of, or very low levels of beta globulin, seems indicative that the normal pathway for the transfer of iron is not available. This laboratory's separation of the serum proteins in several cases of apparent iron deficiency anemia, which responded poorly to therapy, showed low beta globulin levels. However, a lowered beta globulin is not always an acceptable criterion for the explanation of poor therapeutic response in iron deficiency anemia, since lowered beta globulin levels often occur in other diseases (i.e. hypogammaglobulinemia, severe infection and inflammation) without any evidence of co-existent anemia.

Since the first demonstration of the electrophoretic characteristics of hemoglobins in 1948, a total of ten different hemoglobins have been demonstrated(32-33). These hemoglobins have been designated A (normal), F (fetal, S (sickle cell), C, D, E, G, H, I, and J. Some of the abnormal hemoglobins are demonstrated in a true homozygous state. It will be noted in Chart A that the simple heterozygous or trait conditions of these abnormal hemoglobins are generally asymptomatic and do not give rise to morphological abnormalities of the blood, except for the presence of target cells in hemoglobin C trait. However, any of these hemoglobins may be found in an heterozygous combination with thalassemia resulting in a moderate to severe hemolytic anemia.

For the differentiation of the various hemolytic anemias careful examination of erythrocyte morphology, electrophoretic separation of hemoglobin, and results of alkali denaturization are of extreme importance.

The alkali denaturization is a test for the detection and quantitation of F hemoglobin. At the time of birth F hemoglobin comprises 55-98%

of the total hemoglobin(34). At the end of 12-18 months the F hemoglobin value has decreased to less than 5% which is considered the normal adult value.

Although F hemoglobin may be demonstrated electrophoretically, the alkali denaturization test is necessary for the quantitation of fetal hemoglobin since the electrophoretic mobility of hemoglobin F does not allow accurate quantitation of the lower percentile values. Since any amount of F hemoglobin above 5% in an adult is considered pathological, the alkali denaturization test is essential in the classification of some of the hemolytic anemias. It will be noted in Chart A that the F hemoglobin value is elevated in most of the hemolytic anemias in which thalassemia is evident in combination with other abnormal hemoglobins. In thalassemia major the percentage of F hemoglobin demonstrable may be as high as 90% of the total hemoglobin.

SUMMARY

The authors have attempted to present a concise and critical resume of the use of electrophoresis in clinical medicine with special reference to its most advantageous diagnostic and prognostic usage. The references listed are major works which are corroborated by many other investigators, or are individual findings which are substantiated by valid research. The results of electrophoretic studies performed in this laboratory are correlated with the existing literature.

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Experiences with Intravenous Abdominal Aortagraphy

A Report of Fifteen Cases

By

George A. Gentner, M.D.*

and

K. Herbert Huber, M.D.†

This is to be a section on roentgenology, and we hope to make this a regular feature of each issue of the journal.

The many fine roentgenologists in the State of Arizona are respectfully and earnestly requested to contribute to this section. Articles or case reports will be equally accepted. Special care will be taken in the future to try and ensure acceptable reproductions of roentgenograms.

It is requested that material submitted be typewritten (double spaced) and carefully edited by the author. This will facilitate the task of the section editor. Photographic copies of roentgenograms should be carefully prepared and suitably cropped before submission. Glossy prints, approximately 3 inches square, would be suitable.

THIS report is based on a study of fifteen cases of intravenous aortography performed at Maricopa County General Hospital, Phoenix, Arizona.

Intravenous aortography is not new. It has developed gradually over a period of years as a by product of the nephrogram and nephrotomogram techniques. The nephrogram technique was developed following Robb and Steinberg's work on angiocardiography. When a nephrogram was made using a rapid change cassette it was noted the great vessels in the abdomen were demonstrated occasionally. Weems, et al.,(1) reported successful aortograms in 1948 using 70 per cent Diodrast intravenously. Wall and Rose(2) demonstrated the abdominal aorta in fifty per cent of the films of their series in 1951 using Urokon Sodium 70 per cent. Interest declined until recently when 90 per cent Hypaque and 85 per cent Cardiografin were developed, as these contrast media are apparently less toxic than the media previously used. Also previously the intravenous techniques used did not consistantly demonstrate the aorta.

In 1958 Bernstein, et al.,(9) reported consistantly successful aortograms using intravenous injections of 90 per cent Hypaque and 85 per cent Cardiografin. They used I^{131} Renografin and a scintillation counter to determine the arm vein to abdominal aorta circulation time. They at first used a rapid change cassette, but later changed to a prolonged (six second) exposure. This technique has the disadvantage that it cannot be used at smaller hospitals because of expense and ready availability of equipment.

Another technique developed and reported by Steinberg, et al.,(13) needs no special equip-

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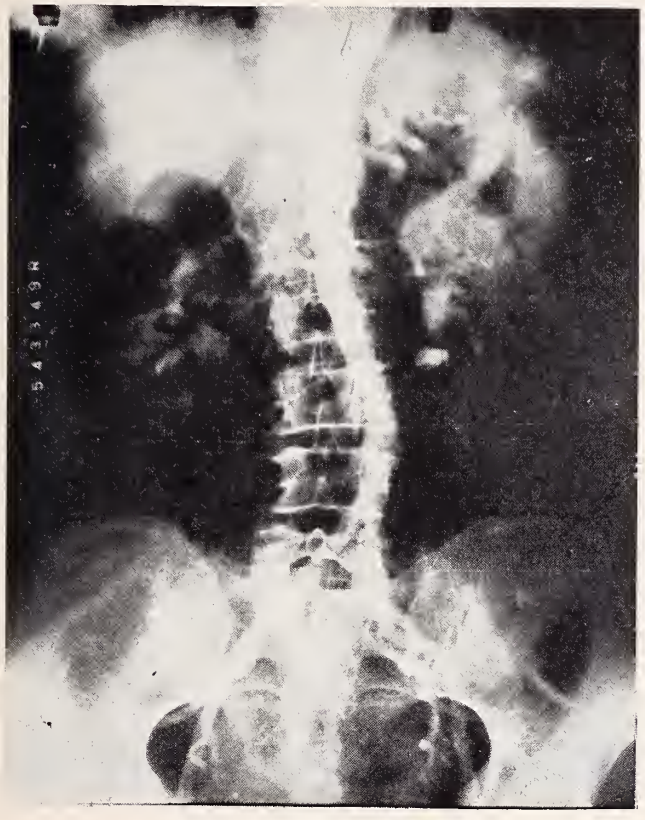


Fig. 1. Case 2. Aortasclerosis

ment and can be accomplished at any institution. It was the purpose of this study to duplicate the reported results using the Steinberg technique. There have been no complications reported using the Steinberg or the Bernstein techniques.

TECHNIQUE FROM STEINBERG

After the determination of the Decholin circulation time from an antecubital vein, 1cc./kg. body weight of 90 per cent Hypaque is injected as rapidly as possible in the antecubital veins of both forearms (one half dose in each arm) and a KUB film is taken using a three to five second exposure, starting the exposure one half second after the predetermined circulation time. The injection is made through a large bore needle (Robb 12 guage angiocardiographic needle) or a cut down (No. 280 polyethelene tubing). Patients are pretested for sensitivity to Hypaque.

RESULTS

Roentgenograms were evaluated on the basis that they could or could not be interpreted with accuracy. A film was rated as satisfactory if there was sufficient opacification of the aorta for reasonable interpretation. The films were rated as unsatisfactory if they could not be interpreted accurately, even though some degree of opacification was present.

A second injection can be made immediately if unsatisfactory films are obtained. This was done in six cases in our series, the second film being satisfactory in two instances.

Classifying the films on this basis 66.6 per cent of the aortograms were satisfactory for diagnostic purposes. Some degree of opacification of the abdominal aorta was present and excellent nephrograms were obtained in all cases.

The last case shown on the table was an attempt at cerebral arteriography by the same technique. The main branches of the aorta, vertebrals and subclavian vessels visualized well, but there was too much capillary filling to be able to interpret the cerebral films. It is felt that refinement of the technique might improve the possibility of successful cerebral arteriograms with the intravenous method.



Fig. 2. Case 11 Aneurysm Abdominal Aorta.

SIDE REACTIONS

All of our patients experienced a "hot flash" a few seconds after the injection. This is a known reaction with the use of Hypaque and it may have been intensified by excessive warming of the contrast material to make it more fluid and easier to inject, but the latter is doubtful.

Two patients became nauseated following the injection, but did not vomit. A third patient became nauseated with associated vomiting following the injection of Decholin. Another patient experienced abdominal cramps, nausea and vomiting approximately one hour after the injection of the contrast material, but this reaction occurred while a retroperitoneal air study was being performed and it was not classified as a side reaction of the aortogram.

Dosage of Hypaque ranged from 50cc. to 160cc. for each patient, the larger dose being in patients where the procedure was repeated immediately. An elevated BUN was not used as a contraindication to the procedure, and there seemed to be no additional effect from the larger doses used.



Fig. 3. Case 5. Absent Left Renal Artery and Kidney—Congenital.

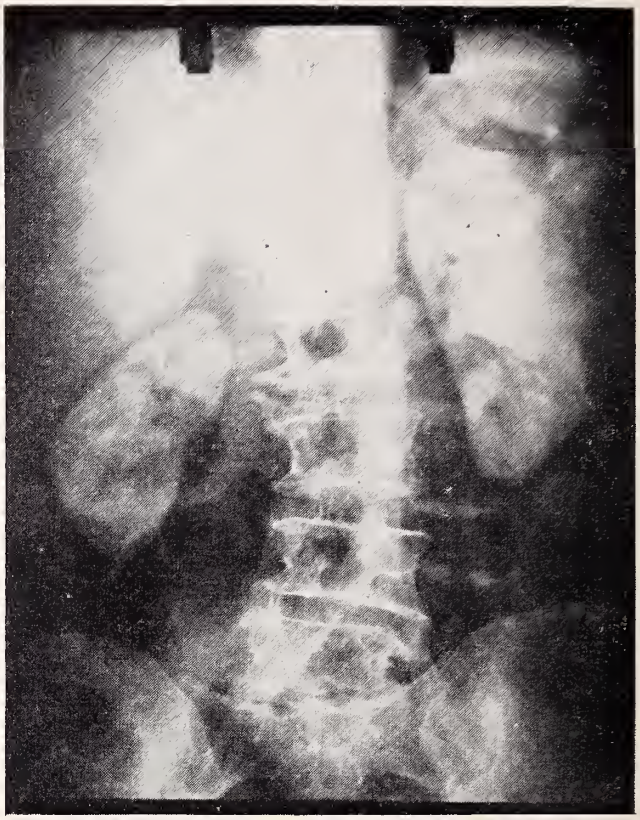


Fig. 4. Case 3. Typerhephroma, Left Kidney.

A BUN and urinalysis was obtained on all patients before and after the test. The lowest preaortogram BUN is reported where more than one is available and the highest post aortogram BUN is reported, even though some of these patients had renal surgery in the interim. (See Table). There was no essential change in the urinalysis.

COMMENTS

Although we were unable to duplicate Steinberg's reported results, we did have reasonable success with intravenous aortography. It is felt that more rigid criteria for the selection of patients would have increased the per cent of satisfactory films. The patients in our series ranged from 39 to 82 years of age, with an average age of 66 years. A few of these patients were debilitated with their disease, or in border line cardiac failure. If these patients were eliminated there would be a considerable increase in the per cent of successful cases.

It should also be noted, from the table, that a number of ancillary diagnosis can be made using the procedure, even when the aorta does not visualize well, especially in the urologic field.

TABULATION OF CASES

CASE	SEX	AGE	CLINICAL DIAGNOSIS	PRE BUN mg.%	POST BUN mg.%	DECHOLIN CIRCULATION TIME	SECOND INJECTION	QUALITY OF AORTOGRAM	XRAY DIAGNOSIS	OPERATION
1	F	39	R. O. Aortic Aneurysm	15.0	12.5	14.0 Sec.	No	Satisfactory	Normal Aortogram	None
2	F	76	R. O. Aortic Aneurysm	33.0	28.5	14.0 Sec.	No	Satisfactory	Aorticsclerosis Normal Nephrogram	None
3	F	74	Tumor Left Kidney	17.5	30.0	12.0 Sec.	Yes	Satisfactory	Normal Aortogram Hypernephroma Left Kidney	Left Nephrectomy for Hypernephoma
4	F	82	Cyst or Tumor Left Kidney	18.0	27.0	13.0 Sec.	Yes	Unsatisfactory	Hypernephroma Left Kidney	None - Dx. Confirmed at Autopsy
5	F	68	R. O. Absence of Left Kidney	22.0	20.0	15.0 Sec.	No	Satisfactory	Absent Left Renal Artery and Kidney - ?Congenital	None
6	M	65	Tumor Left Kidney	22.0	22.0	14.0 Sec.	Yes	Unsatisfactory	Hypernephroma Left Kidney	Resection Large Renal Cyst
7	M	75	R. O. Right Iliac Artery Occlusion	17.5	28.5	16.0 Sec.	No	Satisfactory	Advanced Arteriosclerosis	BK Amputation
8	M	60	R. O. Thrombosis Right Iliac Artery	30.0	20.0	13.0 Sec.	Yes	Satisfactory	Right External Iliac Artery Occlusion	Attempted Embolectomy
9	F	57	R. O. Pheochromocytoma	18.5	20.0	14.5 Sec.	No	Satisfactory	Normal Aortogram and Nephrogram	Exploratory Laporotomy
10	M	50	Arteriosclerotic Gangrene Right Foot ?Thrombosis	11.5	11.5	10.5 Sec.	No	Unsatisfactory	Normal Nephrogram	Right Mid Thigh Amputation
11	M	67	Aneurysm Abdominal Aorta	16.0	26.5	17.0 Sec.	No	Satisfactory	Abdominal Aortic Aneurysm	Resection of Aneurysm With Dacron Graft
12	M	57	Thrombosis Right Iliac Artery	32.0	44.5	12.2 Sec.	No	Satisfactory	Riding Thrombus	Attempted Thrombectomy
13	F	73	Aortic Aneurysm	24.0	19.5	20.4 Sec.	Yes	Unsatisfactory	Normal Aortic Bifurcation and d Iliac Vessels	None
14	M	80	Bilateral Iliac Artery Aneurysm	41.5	30.0	18.0 Sec.	Yes	Unsatisfactory	Right Hydronephrosis with Nonfunction Left Kidney	Supracondylar Amputation Right
15	F	70	R. O. Aortic Aneurysm	17.5	22.0	10.0 Sec.	No	Satisfactory	Nonfunction Left Kidney	None
	F	48	R. O. Intracranial Neoplasm	32.0	21.0	10.5 Sec.	Yes	Unsatisfactory Cerebral Arteriogram	Normal Vertebral and Carotid Arteries Normal Pyelogram	None

CONCLUSIONS

When aortography is indicated, the intravenous technique is reasonably safe and satisfactory films can be expected in 66.6 per cent, or more, of the cases. If a failure occurs this does not eliminate the possibility of a translumbar or retograde attempt being made later.

AUTHORS' NOTE

We wish to express our gratitude to Ernest E. Born, M.D., surgical resident at Maricopa County General Hospital for his assistance during these tests.

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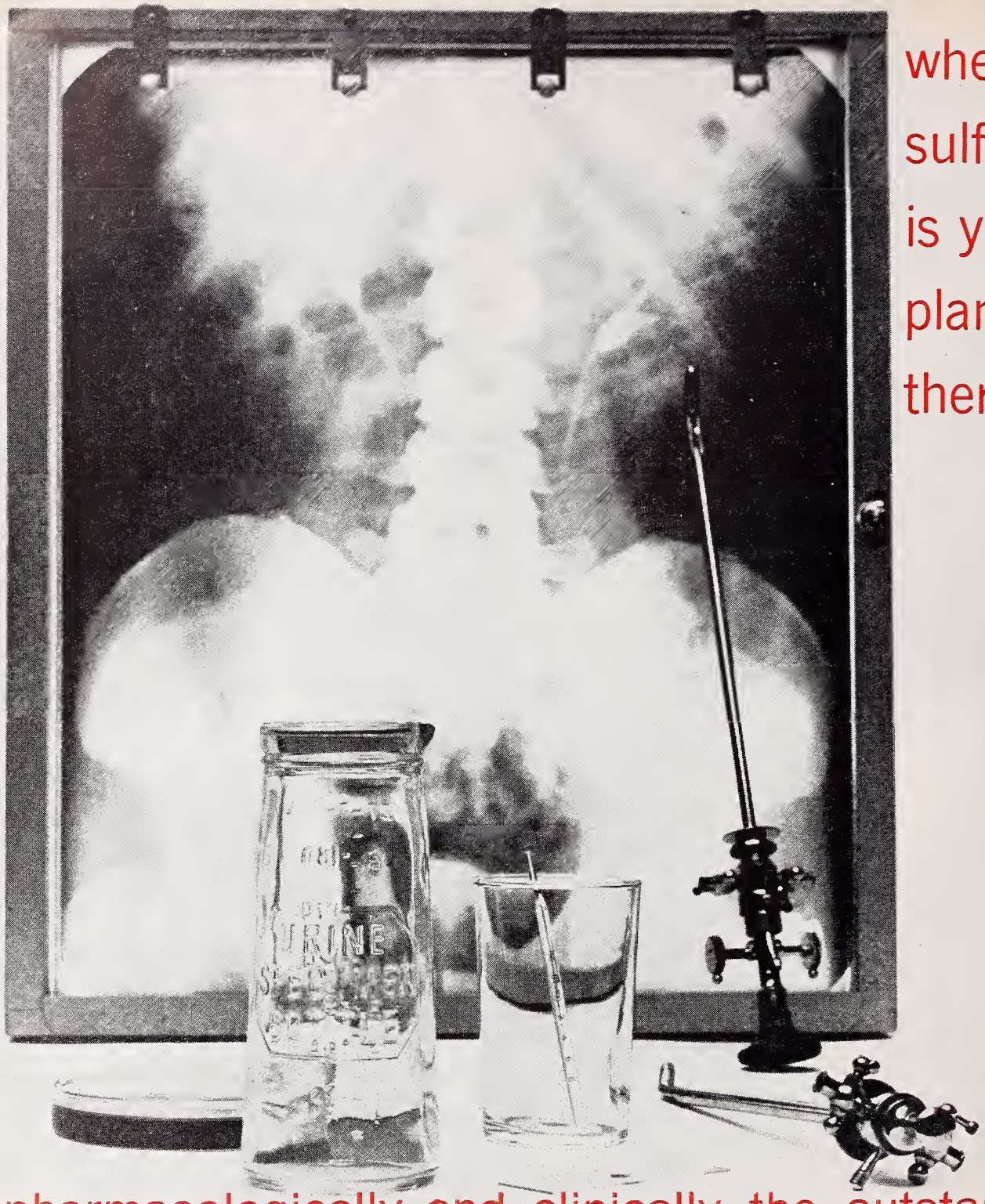
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Children's Common Orthopaedic Problems Of the Lower Extremities*

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University of California
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At the Arizona State Medical Association Meeting in Scottsdale Dr. E. R. Schottstaedt of San Francisco gave a couple of very timely papers on orthopedic problems. The paper on the lower extremities where he discussed the common orthopedic problems in relation to the feet and knees was of particular interest to pediatricians and general practitioners as well as to the orthopedic surgeons.

Most of these problems are not too serious and can be handled well with the conservative measures outlined by Dr. Schottstaedt. Of particular interest to the parents is the pronation or valgus of the feet with weight bearing and the internal torsion or toeing-in as they are learning to walk. In many of these instances the sleeping habits of the child have to be altered, and the use of the appliances as he has outlined gives very satisfactory results.

ALS

THE pediatrician, orthopaedic, and general practitioner are vitally concerned with the gait and postural variations and attitudes in the child from infancy, especially through the ages of 5 and 6. Usually the problem ceases to demand the focus of attention by this time for the problem is either solved or the plan of proposed procedure is well outlined.

These conditions for which our advice is constantly sought divide themselves into those relating to the foot, rotational lower extremity problems, varus or valgus of the knee, and recurvatum.

PES PLANUS

The most common foot problem is that of valgus, pes planus, or eversion as one cares to designate it. There is some difference of course in the meaning of these different terms, but they are all used to designate the flatfoot.

The child until the age of 3 years has no arch, or a poorly developed arch, yet some children demonstrate excessive or valgus beyond the normal for their age group. Here there is an

*Presented at the annual meeting of The Arizona Medical Association, Scottsdale, May 4-7, 1960.

obvious bulge, and outward angulation of the forefoot on the hindfoot. The os ealcis assumes an inclination into valgus of from 10 to 15 degrees. The foot may not have a demonstrably tight tendo-aehillis though the ealf may be functionally overaetive. The foot is flexible and can be easily eorreeted in eontradistinction to the rigid foot with eongenitally short tendo-aehillis and plantar flexed talus whieh are more rarely seen.

These feet will also show a plantar flexed talus but the flexibility of the foot is a distinguishing feature. This division of flexible flatfoot is arbitrary and a matter of degree. Certainly the average flatfoot in the ehild does not require plaster eorrection, but the more severe eases do better with speeifie treatment.

This elassically eonsists of plaster easts, either short leg or long leg, depending on the physician's choice. The easts should be ehanged weekly during the period of rapid foot growth, but usually every two weeks will be enough to keep up with growth and east breakage.

Treatment should extend over at least 3 months. The foot should be held in heel varus, heel dorsiflexion (calcaneus) with eversion of the forefoot upon the heel. This is not to be eonfused with the position of inversion of both the forefoot and heel.

Following plaster eorrection a modified Dennis Brown bar is used holding the feet in inversion, and a standard Thomas heel built so that there will be a ¾" advanee of the heel along the medial margin of the shoe and a medial heel wedge of 3/16" to ¼".

The most anterior edge of the medial margin of the heel correetion should be the highest point of the eorreetion so that the foot rolls over it in walking; thus transferring the weight bearing laterally toward the middle of the foot.

Shoes, to be effeetive, must fit in the heel and have a stiff heel counter and leather soles. If slightly greater eorreetion is sought or the treatment results in an internal rotation of the legs in walking, an outer sole patch of ⅛ to 3/16" may be used. This gives the same emphasis to the areh as the described east position accomplishes.

Do not use the medial wedge earried beneath both heel and sole, for this variation results in the foot being held in a medial inclination rather than areh aeeentuation. Inside arch supports of felt or steel may be helpful, though not mandatory.

The heel correction is by far the most important for it tips the heel and thus shifts the weight-bearing line to its proper postural alignment.

Varying degrees of flatfoot deformity are treated on this plan with whatever vigor is deeided upon by the physician in eharge, for some, treatment will inelude an inversion bar, arch support, and heel correetion. Others, inside support and heel correetion, and still others (the greater majority) shoe eorreetion alone, using only the heel portion of the proposed shoe correetion. In other words the eommonly deseribed Thomas heel.

Inversion bar correction is not commonly used for more than a year. Shoe eorreetion, and inside areh supports may be neeessary throughout the entire period of growth. Onee extremity bone growth has eeased, at about 14 in females and 16 in males, such treatment is supportive for the foot will no longer ehange developmentally.

Those feet that are functionally insufficient as evidenced by pain on weight bearing aetivity may be treated by the bone proeedure found most useful.

In our hands the most suitable proeedures have been the Hoke flatfoot proeedure, the Chambers flatfoot procedure, and triple arthrodesis.

The first and second named procedures should include tendo-achillis lengthening as described by the authors, for it is a tight tendo-achillis or funetionally overaetive one that results in rotation of the os ealeis beneath the astragals, allowing the superior or astragalar process of the joint margin to be foreed against the inferior surfaee or base of the sinus tarsi and thus molds the os ealeis. Bear in mind; however, that flatfeet are not neeessarily painful and should not be operated upon unless funetionally insuffieient.

Rarely do we find painful flatfeet in the very young, but occassionally it has been found advisable to do corrective foot surgery when the condition is associated with pain or extreme deformity in those over the age of 4.

The differential diagnosis of flatfoot in extreme cases should include X-rays to demonstrate the extreme plantar flexed talus which is seen with the more flexible flatfoot, but is easily distinguished clinically from the plantar flexed talus associated with a contracture of the tendo-achillis.

These latter are part of a fixed congenital deformity which requires plaster correction, and very often demands surgical intervention, even at a very early age to give adequate length to the tendo-achillis and allow the foot to be brought into inversion.

Ligamentous incision of the forefoot will also be necessary to help return the bones to their normal relationship.

ROTATIONAL DEFORMITY

There are at least 5 variations which should be discussed at this time. It should be emphasized at this point that there are no truly dependable clinical X-ray criteria for substantiating this diagnosis. Many attempts have been made to put the problem on a scientific factual basis and studies on skeltons can be cited. They have been singularly unrewarding in clinical evaluation. It would seem that this is chiefly a clinical diagnosis.

(A) External rotation of one or both lower extremities is often noted in the infant about the time he stands. This is usually confined to one leg; seldom does it reach the attention of the orthopedist until he is 8 or 9 months old.

The extremity demonstrates no contracture and is easily correctable manually. This condition has been associated with a "pusher foot" by pediatricians, and certainly this seems to often be true. However, occasionally it is seen in both lower extremities at the same time which is most confusing if the aforenoted etiological factor is to be credited.

Various sleeping positions have been incriminated and perhaps rightly so, but regardless of the etiologic factors involved, treatment is best provided through the use of a Dennis Brown or other rotational bar used at night and at nap time. Usually the entire deformity is corrected within 3 months.

The externally rotated foot should be internally rotated so that the patella points inward 15 to 20 degrees. The foot may turn in considerably more than this.

(B) Internal rotation of the entire lower extremity. This condition may be unilateral but in contradistinction to the foregoing it is usually bilateral. The entire extremity is internally rotated. There is an apparent proper relationship of foot to patella. The problem lies in the region of the hip.

Hip X-rays are usually negative in both this and the foregoing condition, but it is generally wise to have them for a record since occasionally dysplasia and rarely dislocation are associated with a rotational problem.

To demonstrate the condition by examination, grasp the femoral shafts above the patella so that the femurs may be internally rotated and in this condition the patellae usually will face one another at 90 degrees and can only be externally rotated manually from 5 to 15 degrees. The problem is thought secondary to an anteversion of the femoral neck. As a result of the passive range available the child chooses to use a portion of the range of internal rotation for his middle range and the one that he walks in most comfortably.

Often he can consciously hold the extreme external rotation to neutral as he walks. Without such conscious concentration this is not possible. The position of choice, which is the position of deformity is more noticeable when the child is running or when he is tired. This matter of relationship of fatigue is of course related to his lack of interest in holding his legs externally rotated as he becomes more tired.

Many of these children will correct spontaneously with growth just as will other rotational problems in this group, but it is impos-

sible clinically to determine which will and which will not correct; for which reason treatment is deemed wise for the entire group.

As children grow older they often become more conscious of themselves and walk better even if there is still some internal rotation deformity remaining.

In the first 2 years of life this condition is a problem cosmetically, and because these children are continually tripping over their own feet and falling. Occasionally the problem is not simply controlled. The child continues to trip himself more often and is a cosmetic problem unacceptable to the parents. This of course is more often true in girls where skirts make it more noticeable, than it is with boys where trousers hide the deformity.

This group may also be treated with Dennis Brown bars. Here the feet of the involved lower extremity are held in external rotation between 60 and 90 degrees. Usually a position somewhere between 70 and 80 degrees is most useful. Admittedly there is some stretch of the tibia at the knee joint upon the femur, but this does no harm.

Treatment is at nap and night time and is usually necessarily continued longer than in (A). Occasionally it is necessary to continue the correcting brace as long as a year, in conjunction with the bar and outer sole patch, or occasionally a hose twister brace, similar to that used in the treatment of internal rotation of cerebral palsy may be advisable.

In those few children who do not respond, and where the deformity is a serious consideration in gait from a functional or cosmetic point of view, osteotomy of the femur is advisable since it is the only treatment which can fully correct the problem and place the patellae in their normally externally rotated position in relation to the foot in walking. This procedure may be done either in the proximal or distal third of the bone.

(C) Occasionally one lower extremity will internally rotate and the other will externally rotate. Here the bar may be used holding each leg as indicated by the deformity.

(D) Internal rotation of the tibia upon the femur at the knee joint is also quite common. Here the femur grasped above the knee and rotated demonstrates a normal range of both internal and external rotation with the child lying upon his back. The patellae fall in the rest position of above 10 degrees of external rotation; however, the foot and lower leg are internally rotated. The lower leg is easily rotated back to normal relationship. This is best demonstrated by flexing the knee to 90 degrees and externally rotating the lower leg to its correct position.

The condition is thought by many to be related to sleeping in the facelying position with the thighs flexed and the lower legs internally rotated. In any event it is not easy to correct by telling the mother to prevent such sleeping positions, and often will persist for several years without treatment.

It is treated early by a plaster cast, holding the lower leg and foot externally rotated with the knee previously flexed to 90 degrees. Knee flexion is necessary so that an adequate fixation can be obtained above the knee joint to maintain the corrective position of the tibia on the femur.

An external rotation bar will occasionally be effective if the foot is set out at 90 degrees. The femur easily externally rotates to 60 degrees, and to be effective the tibia must be in line with the femur, using the patella as the point of reference. Two or three months are a necessary minimum as a treatment period. Surgery is almost never indicated.

(E) More rarely we see an external rotation of the tibia upon femur. Here the child tends to correct a basic internal rotation of the femur by walking with the femurs slightly internally rotated so that the patellae tend to point inwards 10 to 15 degrees while the feet are externally rotated from 15 to 20 degrees. The internal rotation of the femur or anteversion of the femoral neck results in the internal rotation position of the femur.

The condition cannot be corrected with a Dennis Brown bar for full correction and may later come to surgery. Conservative treatment after

the age of 5 is seldom effective; however, bear in mind that this is a cosmetic problem and be certain that the deformity is severe enough to present a real cosmetic or psychologic problem.

VALGUS AND VARUS OF THE KNEE

There are 2 other major problems that affect the child, especially from 1½ to 6, and hence are of concern to parents and physicians. These revolve about the lateral and medial deviations of the lower extremities from the midline with the knee as the usually accepted focus of attention.

Valgus is extremely common, and certainly frequently brought to the attention of the physician. It is more easily accepted in the male child than in the female, and the degree of concern manifested by the parents varies considerably. The deformity is generally fairly symmetrical, and for each pair of extremities deviations from the 180 degree femur tibia relationship occur in varying amounts.

This disparity is measurable between the malleoli, in inches. It should be born in mind that there is a normal lateral deviation present in most children as well as adults, and this must be taken into consideration in evaluating the condition.

A distance of from 1 to 2" between the malleoli is not at all uncommon and occasionally 3" may be measured between the medial malleoli with the knees held in contact with one another. A pes planus of varying degrees is a common concomittant but not essential. Thomas heel correction gives some improvement though, and seems to favorably influence a long term return to normal, but more especially the problem is resolved in general by the normal growth process.

A 2" deviation at 3 years is quite noticeable, while a 2" to 3" deviation at 12 is not remarkable.

Not only do these deviations from the midline tend to actually correct themselves, but longitudinal growth hides them. Occasionally knock knee braces worn as night, or as day and night braces are helpful.

Osteotomy is almost never indicated except in extreme cases and should be deferred until the age of 10 to 12 years. At this age very few osteotomies will be found necessary. It must be clearly understood that the above discussion concerns only the physiological knock knee and not those associated with polio or other paralytic conditions; nor those due to partial epiphyseal closure.

Varus deformities are much more uncommon and the concern is that a case of rickets may be overlooked. Careful dietary history and full leg X-rays are necessary. Occasionally resistant rickets or renal rickets may need be differentiated. In addition to general signs a metabolic disturbance will be recognized by the widened band of provisional calcification.

Tibia varum or Blount's disease can cause the same difficulty, but in our particular locale is very uncommon. More commonly the X-rays show some beaking of the medial margin of the epiphyses and frequently a dense band of cortical thickening along the medial side of the tibia without widening of the epiphyseal line.

These changes represent variations within normal limits, and will gradually disappear with growth. Here again the treatment depends on the degree of deformity and the anxiety of parents. Many can be followed for a few months for better evaluation of the progression or regression of the condition.

In general, however, this problem causes much more alarm and corrects itself more slowly. If the deformity is within accepable limits watchful waiting is the treatment of choice. If there is progression, undue anxiety, or a severe cosmetic variation, long leg braces are the best treatment. These are worn both day and night for the first 2 to 3 months and then only at night.

They are extremely hard to fit in the first year of life because of rapid growth and in general are not applied until the growth rate has decreased in the late first year or the second year. We use a double bar, long leg brace with no knee joints, having a broad push pad above the knee medially to press against the medial side of the femur and an inside T strap at the ankle. These 2 points act as counter pressure for the main corrective force that is applied through a

broad leather strap with three buckle attachments secured over the medial bar of the brace, the brace having been previously bent out medially to allow the application of adequate correction. This is usually effective within a 6 month period.

Osteotomy is rarely necessary except for the varus associated with renal rickets or resistant rickets, and in these circumstances should only be done following correction of the basic metabolic problem or recurrence of the deformity is inevitable.

RECURVATUM

One last problem is that of the physiological back knee or recurvatum which is fairly common, but less commonly complained about since it is usually not noticed. It is understood that the recurvatum under discussion is not associated with cerebral palsy, poliomyelitis, or conditions affecting the stability of the knee joint. The degree of hyperextension varies from 10 to 30 degrees, usually being 10 to 15 degrees. It is seldom if ever progressive, is often hereditary, and of no real clinical significance. Very often the patient can walk with a back knee or without a back knee at will.

Very often the child walks without a back knee but stands with back knee. Bracing is valueless. Physical therapy consisting of exercises to develop the musculature of the thigh and calf is of no value, and osteotomy almost unheard of for this condition. Osteotomy is, of course, commonly resorted to in this condition when it is severe and associated with a paralytic problem or one of knee instability.

There are other postural variations affecting the growing skeleton, but these do not fall within the scope of this paper. Most of them are associated with metabolic, paralytic, or traumatic problems or are related to osteochondrodystrophy, or allied skeletal abnormalities.

It is our hope that this article may be of help to the busy clinician in handling the more simple variations of posture and gait as seen in the lower extremity.

SOME Physicians are social snobs,
Mixing French phrases with medical terms,
Collecting dowagers by the gobs,
And treating their gold-plated high class germs.
SOME Physicians are "Umm" and "Ahhh" men
Too busy to bother with explanations.
Who guard their knowledge like ancient Chaumen,
Hiding the truth in strange cantations.
MOST Physicians themselves are tonics
Dispensing confidence with their pills,
Who, without frills and histrionics,
Quietly, patiently cure our ills.

Phyllis Jean Fields

A Follow-up Study of the Colonna Procedure For Congenital Hip Dislocation*

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In 1932 Colonna wrote a preliminary report of his capsular arthroplasty performed on 4 cases in an article dealing with several other approaches to the problems of congenital dislocation of the hip. In this article he gave credit to Hey Groves, who had suggested the procedure in 1927.

Note was made of the fact that there was at that time, 1932, no report of the results of any cases done by this technique reported in the literature.

In January of 1947, at a meeting of the American Academy of Orthopaedic Surgery, he reported in more detail, and made a follow-up report in 1953. All of these reports deal with cases represent the best follow up under similar care, and possible complications.

Case review and analysis were not appended. It is our purpose to review the procedure, its modifications in our hands, and the results that have been obtained at the San Francisco Shriner's Hospital. This does not represent our entire experience with the procedure since many cases have been done in other hospitals.

Continuing follow up of any series becomes a very real problem and our Shriner's Hospital cases represent the best follow-up under similar case circumstances. Some of these cases, especially in the older age group have been closed because the child has become "over age". As yet only a few cases on which we have an adequate follow-up have reached early adulthood.

The group to be reported consists of 38 cases with 44 hips done from March, 1947, until March, 1955, where a follow-up of at least 5 years was available. The period of follow-up varies from 5 to 12 years. Eight cases and 10 hips were discarded from a total of 46 cases since their follow-up extended over a period of less than 5 years (usually between 2 and 4 years).

The oldest case was 13½ at the time of surgery and the youngest, 1¾ years. (In addition to this group done for congenital dislocation, 12 cases with 15 hips were done for various other causes of hip dislocation and will be reported later. These conditions include poliomyelitis, spina bifida, cerebral palsy, multiple joint dislocation, traumatic dislocation, and instability secondary to osteomyelitis of the head and neck

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of femur.)

Not included in this series is one postoperative death occuring the night of surgery associated with adrenal insufficiency.

The procedure in our hands has been varied in some aspects but the basic surgical concept has not changed. In none of our cases was arthroplasty done before the hip could be easily brought to the level of the original acetabulum. In some few this could be accomplished without skeletal traction. The greater majority; however, were treated by preliminary adductor release (occasionally with concommitant section of the hamstrings from the ischial tuberosity) and skeletal traction for 10-21 days. Traction of from 8-12 pounds was necessary and depended on the size of the patient.

When the femoral head has been brought opposite the original acetabulum arthroplasty is performed. This is done through an anterior ilio-femoral approach (Smith Peterson type) rather than the lateral approach described by Colonna, and the trochanter is not detached. This modification was made because of concern over the trochanteric epiphysis. This concern would now appear ill founded in view of Colonna's reports.

The capsule of the hip joint is detached from the acetabular rim — care being taken that none is wasted for excessive capsule is easily trimmed later, but insufficient capsule may cause a poor result.

The anterior and superior capsule are easily freed from the acetabular margin to the base of the trochanter, but it is more difficult to free the capsule to the trochanter posteriorly. Here it is important to detach the posterior capsular rim from the acetabular margin — hold it up with Kocher clamps and unfold (stretch out) the posterior capsule.

If this is not done it may be impossible to get complete coverage without resorting to splitting the capsule, (starting a short distance away from the cut edge so that the new edge can be turned in to fill the gap). This of course results in a thin capsule since only a portion of it is used, but the filleting does not have to extend over very much of the surface. If this is not possible a fascia lata graft can be used, though fascia lata is not the equivalent of capsular coverage. It is essential that the head be covered and this of course necessitates the cutting of ligamenta teres from the femoral head at the time of capsular closure. No trimming is done to the head in any way.

The acetabulum is now deepened at the site of the original acetabulum. The new socket is deepened in a cup shape. The cup must be deep enough to receive the head covered with capsule so that the entire head is covered with the hip abducted to 25 or 30 degrees. The construction of the new acetabulum is of considerable importance. If for any reason it is necessary to make the new socket higher than the old acetabulum, insufficient bone will be present. This is not apparent from X-ray, but it is true because the wings of the ilium become thinner as the crest is approached from the acetabular roof.

Construction of the acetabulum at the ideal level is not always possible, because there may have been severe molding of the acetabular roof itself by the adjacent femoral head during the time of dislocation.

In any event care is taken to construct an acetabulum which is cup shaped rather than saucer shaped and made through the entire width of the bone to, and occasionally, through, the inner table of the innominate.

The greater the amount of original superior acetabular rim remaining, the greater will be the available bone and thus the better the acetabulum constructed.

When a capacious cup shaped acetabulum has been formed the capsule covered head is gently reduced into it. If the head is well covered with the shaft in neutral position an osteotomy will not be necessary, but in general a position of internal rotation will be found most stable and this can be followed later by osteotomy of the femur. Eighty per cent of our cases had transverse osteotomies done in general from 2 to 4 weeks following arthroplasty, though a few were done at the original time of the arthro-

plasty. We now feel that osteotomy should not be done at the time of arthroplasty, but deferred.

The greater percentage of these were done in the sub-trochanteric region of the femoral shaft, but some few were performed in the supracondylar region. Following surgery our treatment has varied a good deal.

At the outset of this operative program all cases were placed in hip spicas until the osteotomy was satisfactorily healed — a period of from 2 to 3 months. This program was then evaluated and the decision made to keep all future cases in light traction suspension postoperatively. This was done for several years. At the present time we are placing our cases postoperatively in cast fixation from 2½ to 3 months. A Steinman nail is used to fix the head in position to the acetabulum. This pin is thus available to control the osteotomy position postoperatively. It is left in place approximately 6 weeks. The additional 4 to 8 weeks is spent in a spica to insure adequate healing of the osteotomy.

A position of valgus is to be avoided in postoperative osteotomy position. If a normal angle is not maintained it is wiser to have the osteotomy in slight varus.

The spica is followed by the use of a spreader bar for 6 weeks, night and day, except for bath and exercise, and then with bar only at nap and night time. This program is continued approximately 6 months, depending somewhat upon the stiffness of the hip. If there is excessive tightness in abduction the spreader bar is not used beyond a 3 month period. Weight bearing is begun at the time of cast removal when the patient is out of the bar for exercise.

It would seem as nearly as we are able to determine that there is little difference at 1½ years postoperatively between the hip treated by immediate postoperative traction and that treated by initial cast immobilization.

CASE REVIEW

Arbitrarily the 38 cases have been divided into three age groups. They are those aged 0 to 3, those between the ages of 3 to 5, and those over 5 years of age. None were done earlier than 1¾ years, and none were older than 13½ years at the time of arthroplasty.

Though the ages 0 to 3, and 3 to 5 might well be merged, it was our feeling from reading Colonna's original articles, that the early age groups should be set apart, to determine whether there was any essential difference.

In view of the operative attack on the acetabulum, none were truly anatomically normal hips, and in many there had been long term molding of the femoral head, and in some cases there was evidence preoperatively of asceptic necrosis.

In general closed reduction had failed to give a satisfactory post manipulative X-ray. Either the head stood away too far or the acetabulum seemed inadequate. Some cases had had previous open reduction and some had had previous shelf procedures. There were also in the group, especially from 3 to 5, a few cases that had had no preliminary treatment except traction to bring the head to the level of the original acetabulum. In an attempt to gain comparable information without obscuring the results in pedantic detail we have arrived at 3 result categories. These are: good, fair, and poor.

1. Good — Those hips demonstrating a range of motion better than 50% of normal, (flexion to 90 degrees +; extension 160/180; abduction 25 degrees +; adduction 20 degrees +; rotation 50% of a normal range)

A negative Trendelenberg test

Good head coverage by the acetabular margin, preventing subluxation (at least ⅔ of the head covered)

No pain or tiredness

2. Fair — range = to that of the good result

Equivocal or positive Trendelenberg

Apparent satisfactory acetabular coverage of the head. No pain but some discomfort or tiredness may be complained of by the patient.

3. Poor — all others with limited range

Positive Trendelenberg

Poor head coverage

Pain and tiredness not necessarily present, but may be present.

Group I. 0-3 years of age.

In this group are 8 cases with 9 hips represented

5 good

1 fair

2 poor

1 penetrated, later arthrodesed.

The earliest stage at which arthroplasty was done was 1¾ years. One of these was redone later at 8¾ years because of over growth of the acetabulum with gradual forcing of the head from the acetabulum. The final result was good, but this case is not reported in the older age category since it represents failure of an early arthroplasty.

Group II. 3-5 years of age

In this group there are 14 cases with 16 hips:

10 good

2 fair

2 poor

1 penetrated (in spite of this patient has almost normal range, but a positive Trendelenberg, and occasional discomfort.)

1 ankylosed (this was a poor result demanding additional surgery — infection ensued with ankylosis. This is our only case complicated by infection).

Group III. Over the age of 5

In this group there are 16 cases with 19 hips:

4 good

14 fair

1 poor

Our only postoperative death occurred in this group in a 10 year old child. The oldest patient operated was 13½, and this was a good result.

DISCUSSION

There are several complications to surgery. Among these were occasional asceptic necrosis of the femoral head, though except in rare instance this was present prior to surgery, and occasional penetration of the femoral head through the acetabulum due to excessive removal of acetabular floor.

Technical errors included excessive cupping or deepening upwards from the superior acetabular rim. This gave a good looking hip, but one poor in motion due to apparent entrapment of the femoral head. There were also cases that were not sufficiently deepened or could not be sufficiently deepened, and did not provide adequate head coverage. This is not always easy to determine on the operative table. There were some hip joints that looked good anatomically by X-ray, but when graded for range of motion, demonstrated a poor range. This apparently related to postoperative fibrosis.

In general, however, the X-ray appearance closely paralleled the range of motion. In other words if the X-ray showed a satisfactory acetabulum and femoral head, the range of motion was good and the Trendelenberg negative.

During the evaluation process it seemed evident that in general there was no change in grade after 2½ to 3 years of observation. A negative Trendelenberg remained negative. Good bony architecture continued to develop well, and range of motion was well maintained or improved. Only occasionally did the clinical picture worsen.

Conversely a poor hip at 2½ to 3 years remained poor with the same criticisms obtaining from that time forth, or the hip gradually developed pain.

From our study it seemed apparent that the hip operated from 2 to 5 will usually yield a

good result, while that operated after 5 on will usually give only a fair result. After the age of 5 the results with increasing years were quite comparable among themselves.

The greatest single difference after this age is the finding of a positive Trendelenberg in the older age groups. Range of motion is usually adequate, but stabilization is not. We do not know the ultimate fate of this group with a positive Trendelenberg, but there is every reason to believe that many of this group will eventually develop pain and tiredness in adult life. Of these some will be able to cope with the problem by decreasing their activity while others will require future arthroplasty or arthrodesis.

SUMMARY

The Colonna procedure is in general a good procedure for those children through the age of 5, and an acceptable salvage procedure after this age, though the really good results decrease sharply from this point forth.

The procedure re-establishes a normal or practically normal Y-coordinate and gives adequate head coverage with a normal acetabular inclination that is well maintained through growth and development. Its chief advantages over a shelf are adequate depth of acetabulum and the improvement of the Y-coordinate which materially shortens the long lever arm from the center of gravity to the center of the femoral head.

It seems evident that any previous surgical procedure that has resulted in a decrease of available capsule for head coverage at the time of arthroplasty will prejudice the result, for fascia lata is not the equal of capsule for head coverage.

For this reason it is our opinion that if a surgical procedure is to be undertaken, and a Colonna procedure is considered as an ultimate solution to the problem, that the Colonna procedure be done as a primary hip procedure. Thus will time and arthroplasty material be saved and both are important to a successful outcome.

In the younger age group we consider it an ideal solution to the problem of congenital hip dislocation, that is not amenable to closed reduction before the age of 3 and, in general prefer it to closed reduction or open reduction between the ages of 3 and 5.

Since we are still unhappy with many of our results in the older age group we are making use of several other techniques, dependent chiefly on the individual indications. These include such procedures as Pemberton's shelf procedure, acetabular rotation, and osteotomy of the ilium above the superior acetabular margin with medial displacement of the hip joint beneath the entire iliac wing. As yet these procedures have not been in use long enough to make evaluation possible.

The Colonna procedure is the operative procedure of choice in children to the age of 5. It is a useful procedure after this age in selected cases, and may eventually prove the best procedure available as a salvage procedure in the older age group.

The authors will continue to use it in this group, but because of its inadequacies will search for other procedures.

By individualizing the hip problems of the older age group some will be found suitable for the Colonna procedure, while others will be deemed more suitable for various other approaches.

We are all searching for the ideal and in all probability there will be no one ideal procedure, but as is generally true, as indications and criteria are delineated more clearly we shall find several equally useful procedures in this age group.

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The Solitary Circumscribed Primary Lung Cancer
A 5-Year Follow-up of 94 Surgically Treated Patients*

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This excellent paper by Doctor Hodgson gives the experiences at Mayo Clinic on surgical treatment for the solitary circumscribed lung cancer. Emphasis is made on early recognition and tomography so that a greater percentage of cure may be obtained. One hundred per cent operability is of particular note. Especial emphasis is placed on striving for further improvement in our diagnostic techniques. (DWN)

ONE third of the solitary circumscribed nodules of the lung removed surgically are malignant tumors and most of these are not recognizable as such before operation. The urgent need for a dynamic attack on these dangerous nodules is apparent.

A simplified definition of a solitary circumscribed pulmonary nodule is as follows: A lesion seen on a roentgenogram of the thorax to be solitary, more or less circumscribed, intrapulmonary, and free of known complications or demonstrable metastasis. These nodules are due to many causes, including metastatic malignancy, but this discussion will be confined largely to the solitary circumscribed primary cancer of the lung.

Within the memory of many of us, we have changed from believing cancer of the lung to be rare to considering it the number one cancer killer. Whether this change is apparent or real is not a settled question, but there is no doubt that the disease is being recognized with ever-increasing frequency.

DETECTION AND DIAGNOSIS

Before we can attack these lesions, we must first recognize them, but once found, to diagnose them clinically is usually difficult. When symptoms from cancer of the lung appear (cough, expectoration, or hemoptysis), they are nonspecific and lead to a diagnosis only because they bring the patient to the physician. Peripheral carcinomas, unfortunately, cause symptoms only when there are complications such as bronchial obstruction, invasion of adjacent structures, or metastasis. Because the parenchyma of the lung and the visceral pleura are devoid of pain fibers, pain can be produced only by ex-

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†The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

tension of the growth beyond the lung and is, therefore, a late symptom.

Age and sex have a dominant role in cancer of the lung, but in determining the cause of a lesion in any one person they are often misleading.

The Clinical Laboratory. — The clinical laboratory, which is helpful in many diseases, is of little use. The results of bacteriologic studies of sputum, secretions, and gastric content are often negative even when there is active infection within a peripheral circumscribed granuloma. Cultures for Brucella and fungi require only 2 to 3 weeks, but cultures for tuberculosis may require 6 to 8 weeks for completion. It is not advisable to wait for the outcome of these studies when faced with the possibility that a malignant tumor is present which already may be shedding tumor emboli into invaded blood vessels. Skin tests must not induce one to postpone thoracotomy, nor should one forget that there is no skin test for pulmonary cancer.

Roentgenography. — The greatest single help in bringing the lesion to our attention is, of course, the thoracic roentgenogram, and it is particularly valuable during the important period before symptoms develop. Community surveys, routine thoracic roentgenograms on admission to hospitals and physicians' offices, and roentgenography for all patients with symptoms disclose many cases of cancer of the lung every year. Thoracic roentgenography must include more and more people in the groups with highest incidence of cancer. Among persons who have been examined, the frequency with which cancer of the lung is discovered by the roentgenogram depends on the age (more frequent after 45 years), on the sex (much commoner among males than among females), and on respiratory symptoms (oftener among those who have than those who do not have such symptoms).

Brett(1) reported two interesting thoracic roentgenographic surveys for comparison. One unit, which was engaged in a routine survey of apparently healthy men, yielded findings of pulmonary cancer at the rate of 27 per 100,000 persons examined. The other unit examined patients referred to it by physicians, and many of these people had symptoms. The rate of detection of cancer in this group was 267 per 100,000 persons examined or 10 times the yield of the other unit.

Other roentgenographic surveys by Bondi and Leites(2), Guiss(3), Seiler and associates(4), and Boucot and associates(5,6) have shown the rate of detection of pulmonary cancer to vary from 13 to 422 cases per 100,000 persons examined. The great differences are largely due to factors of selection of patients examined.

In community-wide X-ray surveys, which include people of both sexes and of all ages, the yield of cancer cases is very low. It is not worth while, therefore, to conduct community surveys only for detection of cancer of the lung, but rather in conjunction with campaigns for tuberculosis and heart disease.

The number of cancers which are solitary and circumscribed that are found in these surveys will, of course, be small in comparison to the whole. Holin and co-workers(7) found solitary circumscribed nodules of all types in one of every 1,000 patients examined; of all lesions found only 3 per cent proved to be malignant lesions, which gave an average of three per 100,000 patients examined.

The roentgenogram is of great help in the detection and localization of a solitary circumscribed lesion but, unfortunately, it does not afford conclusive evidence for the final diagnosis. It is of assistance in ruling out malignant tumor in the following circumstances: (1) if the lesion is regressing, (2) if it was present on available roentgenograms taken a number of years previously and remains without enlargement, and (3) in certain instances of calcification.

A regressing lesion obviously is not cancerous, but few solitary circumscribed nodules regress. These nodules should never be "watched" by means of periodic roentgenograms, because the fatal spread may occur during the period of watching. A few cases are on record of cancers that have remained unchanged for 3 or more years. These are more apt to be adenomas of the bronchus than carcinomas. But the likelihood that a malignant tumor will remain stationary for 3 or more years and the likelihood that it will still be resectable and curable are

both so slight that discretion should be used before recommending the removal of nodules present without change for a number of years.

Calcification can be of definite help in ruling out malignancy in certain instances. "Laminated," "onionskin," or "target" type of calcification is present in a granuloma only and never in a neoplasm; "popcorn" type of calcification, when recognized, practically always signifies a hamartoma. On the other hand, the presence of calcification within the lesion also may be misleading: When there are multiple calcific shadows scattered throughout the lung, by mere chance one of these might have been engulfed within a malignant tumor; also, calcification is so common in the hilar regions it might well be included in a solitary circumscribed cancer in this location. A few cases of calcification within solitary circumscribed cancers have been reported but they are indeed rare.

O'Keefe and associates(8) made roentgenograms of surgically removed solitary nodules. Seventy-two were malignant lesions, and 13.9 per cent of these showed the presence of calcium on a roentgenogram of the surgical specimen itself but only one showed calcification on the preoperative clinical roentgenogram. The probability of a solitary peripheral cancer containing roentgenographically demonstrable calcium is so small that one should think twice before recommending the removal of nodules containing calcium. For each lesion that turned out to be cancerous many benign lesions would be removed with the attendant discomfort, expense, and risk.

The importance of calcification within the lesion and the superiority of tomography in demonstrating it require that practically all patients with a solitary circumscribed pulmonary nodule have a tomographic examination before thoracotomy if calcification or malignancy is not otherwise established.

Bronchoscopy. — Because of the peripheral location of these cancers, they often are not seen bronchoscopically and tissue for diagnosis is seldom available. The greatest usefulness of bronchoscopy is in obtaining secretions and washings for cytologic examination and culture.

Pathologic Aspects. — The greatest single help in confirming the preoperative diagnosis of solitary circumscribed cancer is, of course, the tissue laboratory. It provides our only means of knowing precisely with what we are dealing. Bronchoscopic biopsy will provide tissue for diagnosis only occasionally. We are largely dependent, therefore, on the examination of bronchial material (secretions, washings, or sputum).

In the over-all cytologic examination of bronchial material from patients with carcinoma of the lung, findings in approximately 65 to 70 per cent will be positive, but this high rate will not obtain in cases of solitary circumscribed peripheral cancers. The efficacy of the method is dependent on the submission of a satisfactory number of specimens (three or more), the quality of the material (bronchial sputum and not saliva), the cell type of the cancer, and somewhat on the location of the tumor (less effective in peripheral cancers and metastasis). This method also is limited, because some patients are unable to produce sputum; but one of the brighter hopes for the preoperative diagnosis of pulmonary cancer by cytologic methods comes from the recently published work of Allan and Whittlesey(9).

These workers discovered that by the judicious inhalation of sulfur dioxide, 98 per cent of patients without cough or expectoration could be made to produce enough sputum for examination. Of great significance is the fact that of 64 patients with cancer of the lung who could not produce sputum without sulfur dioxide, all of them expectorated satisfactory specimens by the sulfur dioxide method, and 63 of the 64 were found to have carcinoma cells. Of eight patients with "coin" lesions due to cancer, five, or 62 per cent, were found to have carcinoma cells after the use of sulfur dioxide. This may prove to be a definite technical improvement in the early detection of cancer of the lung.

Because sputum for cytologic examination is easily collected in a preservative and requires no special handling until it arrives at the cytology laboratory, it promises to become a more universal procedure for patients of cancer age, especially for those with respiratory symptoms or with roentgenographically demonstrable lesions in the lung.

Thoracotomy. — If the cause of a solitary circumscribed lesion of the lung cannot be established or its benignity proved, diagnostic thoracotomy is indicated. In a majority of cases this will prove to be the crucial diagnostic procedure. Because thoracotomy usually proves to be therapeutic as well as diagnostic it will be discussed further under therapy.

TREATMENT

Roentgen Therapy and Chemotherapy. — So few patients having solitary lesions have been treated only by roentgen therapy or by chemotherapy that no recommendation is warranted regarding these forms of treatment. Whether or not these methods are superior, equal, or inferior to surgical removal of the tumor cannot be said.

Surgical Treatment. — The majority of solitary circumscribed cancers are now treated by surgical removal. Because thoracotomy is usually necessary to establish the diagnosis and to determine the extent of involvement, it is generally feasible to remove the tumor at the same operation if possible. This may require lobectomy or pneumonectomy. By the very definition of the lesions, all solitary circumscribed pulmonary cancers should be operable provided the patients' general condition permits such treatment. This 100 per cent operability compares to 50 per cent operability for all types of bronchogenic carcinoma. Approximately 90 per cent of the solitary lesions (96 per cent, Paulson[10]) are resectable whereas only 30 per cent of all types combined are resectable. Therefore, from the surgical standpoint, we are dealing with the most favorable kind of pulmonary cancer.

Whether thoracotomy will continue to merit our trust as the best means of treatment will depend on the results. We have studied the survival of our patients with solitary circumscribed cancers of the lung and are presenting an additional report of the results of surgical treatment.

THE STUDY

Previously, Vance and associates(11) reported a 3-year follow-up study of 94 patients with solitary circumscribed bronchogenic cancer who were treated surgically. Our present report is a 5-year follow-up study of these same patients, 100 per cent of whom were traced. If we eliminate from the 94 patients those who were explored but found inoperable (nine cases), those who had palliative resection only (three cases), and those who died in the hospital after operation (five cases), 77 remain who underwent resection with the hope of cure and survived operation. Of these 77, 26 or 33.8 per cent were living after 5 years. In the series of bronchogenic carcinoma of all types reported for the Mayo Clinic by Kirklin and associates(12), 37 per cent of the patients who were resected with the hope of cure survived 5 years. It is discouraging, therefore, to learn that the survival rate of patients having resection with the hope of cure is no better for those with solitary circumscribed cancer than for those with other types of cancer. This is contrary to the impression commonly held.

However, the resectability rate in our group (90 per cent) is nearly twice as great as that in the series reported by Kirklin and associates (49.8 per cent); so the survival rate for all surgical patients with circumscribed cancer is nearly twice as good as that for patients with other forms of surgically explored bronchogenic carcinoma.

TABLE 1

Curative Resections for Solitary Circumscribed Pulmonary Lesions Due to Bronchogenic Carcinoma: 5-Year Survival Rates According to Cell Type (77 Patients)

Lesion, cell type	Patients	Lived 5 or more years after operation	
		Number	Per cent*
Adenocarcinoma	26	9	34.6
Large cell	25	8	32.0
Squamous cell	19	8	42.1
Small cell	1	0	—
Unclassified	6	1	16 7
Total	77	26	33.8

*Inquiry as of January 1, 1960. Hospital deaths are excluded in the calculation of survival rates.

Survival rates according to cell types are given in table 1. There seems to be little difference between the three most numerous types: adenocarcinoma, large cell tumors and squamous cell tumors.

Survival rates according to different variables are given in table 2. It seems to make no difference whether thoracic symptoms are present or absent, whether the lesion is greater or less than 4.0 cm. in diameter, or whether the sedimentation rate of erythrocytes is greater or less than 30 mm. in 1 hour. The survival rate is more favorable if the cytologic findings are negative rather than positive, and the chance of survival appears to be slightly better if the nodes are not involved than if they are involved.

In this group of patients, 77 of the 94 had cytologic examination of bronchial material; the results in 31 (40 per cent) cases were positive. This finding is of definite help in making a preoperative diagnosis. Tissue diagnosis was made in only seven (10 per cent) of the 67 bronchoscopic examinations performed.

TABLE 2

Curative Resections for Solitary Circumscribed Pulmonary Lesions Due To Bronchogenic Carcinoma: 5-Year Survival Rates According To Different Variables (77 Patients)

Variable	Patients	Lived 5 or more years after operation	
		Number	Per cent*
Total	77	26	33.8
Thoracic symptoms:			
Present	45	15	33.3
Absent	32	11	34.4
Size of lesion:			
4.0 cm. or less	43	14	32.6
More than 4.0 cm.	34	12	35.3
Sedimentation rate (mm. in 1 hour):			
30 or less	39	14	35.9
More than 30	25	9	36.0
Unknown	13	3	23.1
Cytologic findings:			
Positive	20	5	25.0
Negative	44	19	43.2
Unknown	13	2	15.4
Operation:			
Pneumonectomy	41	12	29.3
Lobectomy	36	14	38.9
Nodal involvement:			
Present	34	10	29.4
Absent	40	15	37.5
Unknown	3	1	33.3

*Inquiry as of January 1, 1960. Hospital deaths are excluded in the calculation of survival rates.

COMMENT

Much emphasis has been placed on the early detection and surgical removal of cancer of the lung, and at present our hopes are largely confined to these two fields. It is therefore of great interest to study the solitary circumscribed pulmonary cancer because it affords the best chance to make an early diagnosis and to remove the lesion. Therefore, it should be the most favorable type of cancer of the lung.

A question of some importance is whether or not there is any fundamental difference between the solitary peripheral and the central carcinoma of the lung. In our group of patients having solitary circumscribed cancers, the ratio of males to females was 4:1; this was also characteristic for all types of bronchogenic carcinoma. The average age of the patients (58.7 years) conformed to the general pattern. In comparing the cell types of our circumscribed lesions with the cell types in all types of bron-

TABLE 3
Cancer of the Lung: Comparison of Cell Types in Solitary Circumscribed Lesions and in All Types of Carcinoma

Cell type	All types carcinoma(12), per cent	Solitary circumscribed carcinoma(11), per cent
Large cell	37.9	32
Adenocarcinoma	12.6	31
Squamous cell	33.7	27
Small cell	15.8	3
Unclassified	—	7
Total	100.0	100

chogenic carcinoma as reported by Kirklin and associates (table 3), it would appear that the percentage of large cell and squamous cell carcinomas is roughly the same in the two groups, but there is a higher percentage of adenocarcinoma and a smaller percentage of small cell carcinoma in the group having solitary circumscribed cancers. The significance of this is debatable because of the small number in the latter group (94 cases). The difference in resectability rate between peripheral and other types of lesions is large, but the survival rates of the two groups of resected cases again point to a similarity. From this study we cannot conclude that there are any significant differences between the two types of lesions, the greatest difference perhaps being the relative age of the tumor when the patient was first seen.

Figure 1 shows the roentgenogram of a patient on admission to the Mayo Clinic. The atelectasis of the right upper lobe suggests a central type of bronchogenic carcinoma and if this had been the first roentgenogram one would so conclude. However, a roentgenogram taken previously elsewhere (Fig. 2) shows this to have been a solitary circumscribed peripheral type of cancer at an earlier stage of its development.

It is encouraging that 90 per cent or more of solitary tumors of the lung are resectable, but it is equally discouraging that the 5-year survival rate in cases of resection with the hope of cure is only 33.8 per cent, a poor showing

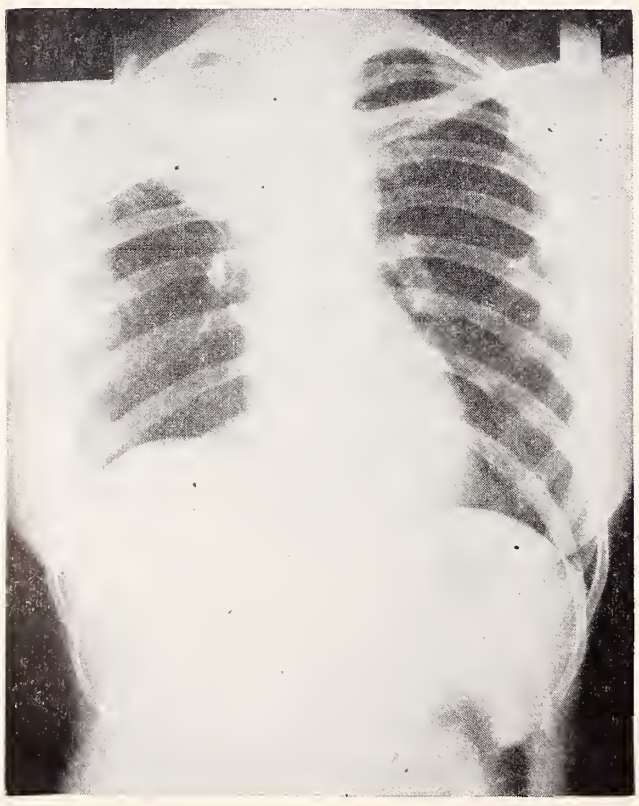


Fig. 1. Roentgenogram made on patient's admission showing atelectasis of right upper lobe due to "central" carcinoma.

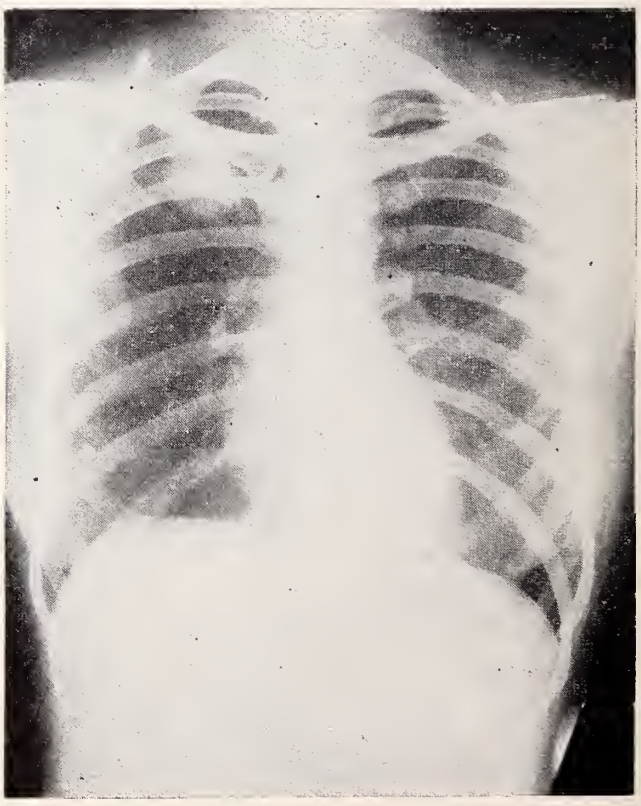


Fig. 2. Roentgenogram made about 11 months before figure 1 showing lesion to have been solitary and circumscribed.

for this highly selected, supposedly favorable type of lesion. This is a survival rate of 27.7 per cent for the 94 cases of solitary circumscribed cancers studied. According to most reports in the literature, 95 per cent of patients with bronchogenic carcinoma of all types combined will be dead of their disease within 5 years of the time of its discovery. Even if we could detect and remove all lesions while they were still in the favorable solitary circumscribed state, only about a fourth of the patients would reach the 5-year goal, according to our studies.

Better methods must be developed before the outlook will improve and, until then, we are committed to make the best use of what we have: We must continue roentgenographic surveys among those with the highest susceptibility to cancer of the lung (men more than 45 years of age). We must interpret the roentgenograms carefully and investigate thoroughly every case in which a lesion of suspicious nature has been encountered. We must evaluate carefully each patient with respiratory symptoms, and we must extend our use of sputum cytology. We should make frequent use of diagnostic thoracotomy for patients with pulmonary lesions of unconfirmed diagnosis. Aside from this, we have palliative and supportive therapy for the patient who cannot be cured (an important part of our treatment of cancer of the lung), and we have hope for improvement in the future.

Regarding the future, in a forthright article on the treatment of cancer of the lung, Bignall(13) concluded with the following statement: "But it seems likely that no major improvement in the results of treatment will appear until some method is found of bringing the uncontrolled 'cancerous' growth back under control." And only by recognizing the inadequacy of our present means can we be inspired to search for improved methods of treating cancer of the lung.

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The President's Page

Doctor and Lawyer

Lindsay E. Beaton, M.D.



Lindsay E. Beaton, M.D.

It is an inauspicious reflection of the intellectual divisions of our age that the two great learned professions, medicine and law, find so small an area of common understanding. Perhaps a physician's interpretation of the variance in views may illuminate them so that they can be seen and seized, and it may evoke its counterpart from some member of the bar. The two at least meet in the professional ideals of service to the public and rigorous adherence to the standards of one's peers. Doctor and lawyer are also equated in public esteem, the former perhaps more affectionately considered, thanks to the nature of his offices to the sick, the latter more admired for his rational keenness. Both are regarded by the laity with some awe, but at times, and too often of late, with ambivalence, indispensable for their special skills, but mistrusted because of their socio-economic status, their individualism, and their esoteric knowledge. Each would do well to look to his public image, as an integral part of vocational responsibility, since only the trusted professional can fully answer the needs of those who come to his door.

There are, of course, defining differences between law and medicine, and the chief of these is the fact that they play separate roles in civilization. Historically, at least in this country, the attorney has been the architect of government, the deviser of the corporate structure of our economic life, and the arbiter of societal regulation. He guarantees that the individual citizen receives the full benefit and protection that the law has to offer but he always remains an officer of the court. More significantly he ensures that society remains controlled. The physician's focus is not the same; he is responsible not for society but for the individual. Even in his public health role he cannot escape the imperative of solicitude for the single sick man. If lawyer and doctor understood more explicitly the social function of the other, each would be more tolerant.

It is not surprising that the two professions attract men of dissimilar temperament. The attorney needs attributes of impersonality and detached objectivity, the ability to reify relationships so that the law can deal with them. The physician on the other hand must be a man who

can empathize and be at bottom his patient's passionate partisan. This is no place to go into explanations of the development of the two characters. They do exist, and the contrast accounts in part for the gap that divides their points of view. Their educations further split them. Law school, with its emphasis on case study, its debunking of judicial opinion, and its skeptical attitude toward legal absolutes produces a relativist. Medical school is much less iconoclastic, and the physician in embryo learns to think in mutually exclusive terms, health and disease, cure and failure. The medical student is taught approved techniques and treatments in an authoritarian way totally foreign to the indoctrination of the law student. His training contributes to the physician's displeased puzzlement that there is no legal certainty, no undisputed formula of right and wrong, while the attorney finds the doctor's expectation naive.

The difference between the attorney's impersonal intellectual grasp and the physician's sympathetic concern is not a new observation. It wouid seem to account for the amusing comment of Thomas Fuller, a 17th century English clergyman:"Commonly, physicians,like beer, are best when they are old; and lawers, like bread, when they are young and new."

One way to attack the misunderstanding is not directly by an account of the ideals and realities of each profession, but instead by analysis of the perversities that each sees in the other. Let me start with the complaints that doctors have against lawyers. A physician does this with trepidation. In 1959 a Nebraska attorney filed suit against a visiting prominent orthopedic surgeon for $500,000 for slandering the legal profession in a speech before a medical society. Both the local bar and the medical society regretted the action,but the doctor had already taken the precaution of returning to his home state, and no service could be made on him. I have no place to go. So the prudent and trembling pen let me first set forth some of the accusations of the doctor against the lawer, and in each case the defense that the latter might reasonably offer.

To begin, probably nothing so contributes to the physician's distrust of the attorney as the rising frequency of malpratice suits. The doctor believes that the lawer fosters disgruntlement in the client who comes to him with some question about medical care. He feels that he is being persecuted in court and morally condemed. He decries a tendency for judges to rule more and more medical accidents as patent acts of negligence not requiring professional testimony for proof, under the doctrine of *res ipsa loquitur.* He fears that next the rule of warranty will be aplied to him and that he will be sued every time the issue does not meet textbook perfection, on the unspoken grounds that with the "miracles" of modern medicine every patient has a right to anticipate complete restoration of health without running any risk. Knowing the variety of illness and the inexactness of treatment, the physician finds all this a deluding fantasy. And he points with real distress to the fact that some of his collegues refuse to employ advanced therapeutic techniques to avoid the possibility of being sued. Finally he would probably say, if you pressed him, that to him the law seems like an abstraction related neither to social reality nor to the reality of the patient's health. Fortunately this is an area in which rapprochement is being sought, and we will discuss it, but the lawer can still reply that every person deserves access to the services of counsel if he feels that he has been done an injury. He would deny that, except for notorious ambulance-chasers, attorneys encourage the filing of malpractice suits, and in Arizona he could support the contention. And lastly he would maintain that a malpractice action is not an arraignment for wrong-doing; it is merely an allegation of error in the course of treatment with consequent damage to the patient. The doctor carries malpractice insurance, the lawyer would add, just as he insures himself against other forms of human error, about which he is not so sensitive because they do not touch his professional self-esteem.

Next, the physician calls attention to the field of personal injury law, in which he sees high verdicts for incapacitations that he considers minimal and at times non-existent. The reply of admission of some gross inequities would be tempered by the fact that measures are being planned to correct them and by the observation that the open-handedness of some juries is one of the calculated risks of a democratic legal system and a small price to pay. The plain-

tiff's advocate would stress sharply that maiming and loss of life certainly deserve substantial compensation from a negligent party, that large awards are necessary to meet the realities of the expenses of modern living and medical care, and that the proper answer does not lie in newspaper ads by insurance companies blasting jury generosity but rather in the recognition that more adequate insurance coverage is required. He might go further and postulate that the physician's upper class status identification leads him to rise automatically to the defense of the insurance company, because he is unconsciously threatened by the implication of assault on his own economic group.

As an ancillary charge against the present pattern of personal injury trials, the doctor aims a denouncing finger at the medical harm done through delay in reaching a determination because of what he would characterize as legal red tape and the pettifogging maneuvers of attorneys. I doubt that any reputable observer would fail to deplore the damage done a claimant by clogging delay in the courts, but the lawyer would say that what the doctor regards as undue deference to the rituals of jurisprudence is only the discharge of the law's promise to protect the rights of the individual. He would add that measures are being urgently devised to speed the clearance of court calendars. A recent issue of the Annals of the American Academy of Political and Social Science was devoted to the topic of "Lagging Justice," and it contains encouraging discussion of the many methods being used and contemplated. Here the simple statement will suffice that lawyers are more aware of the problem than doctors and that rectifying steps are being taken.

The psychiatrist particularly would next criticize the lawyer for adherence to medieval concepts of mental illness and of free will and personal responsibility. The MeNaghten rules, by which most criminal cases involving mental illness are still decided, are actually meaningless in terms of modern psychiatry. As a matter of fact, an American psychiatrist, Isaac Ray, attacked these concepts as long ago as 1838, and the Durham decision of the Court of Appeals for the District of Columbia in 1954 recurred to Ray's concepts in establishing a more scientific rule for the determination of mental competency. This decision is a modern recasting of the New Hampshire State test of insanity, which has its origin in a judgment in that State in 1869. The precise point of this more enlightened and more moral thesis is that a person accused of a crime shall be adjudged innocent by virtue of mental illness if it is attested by competent psychiatric authority that he would not have committed his offense if he had not been mentally ill. As Associate Justice of the United States Supreme Court William O. Douglas has put it, "We of the Western world work on the assumption that a civilized society does not assess punishment where it cannot ascribe blame." What is the attorney's answer to this indictment? This is a question I cannot answer for him. I can only assume that he would respond in terms of the overriding necessity of removing the potentially dangerous person from the streets, and the peril of permitting a legal loophole through which an undisciplined man can escape the consequences of his actions, to the ultimate detriment of the social fabric. The probable fact is, from the psychological view, that the attorney is bound by the terms of his profession to deal within an intellectual framework that has nothing to do with the question, which is one of understanding the ways in which thought and action are governed by unconscious emotional forces over which the individual has no useful control.

Other instances of cultural lag in the adjustment of the law are also disturbing to the physician. For example, he finds it hard to stomach many sumptuary statutes, which he blames on the lawyer, perhaps in tacit recognition of the fact that in the legislature or on federal commissions the lawyer is the law-maker. I refer to such ordinances as those concerning sexual offenses, narcotic addiction, birth control, and adoption, which the physician would regard as scientifically out of date. He finds the lawyer too slow to accept modern medical fact. For example, in a paternity case in Ohio in 1958, after blood tests had definitely proved that the accused could not possibly have sired the child in question, the trial judge in the juvenile court could still give the following instruction to the jury: "Giving full weight to all factors, has the complainant succeeded in proving the guilt of the defendant by a preponderance of the evidence — notwithstanding the testimony of the

expert serologist that the blood-grouping tests establish the exclusion of the defendant as the father of the child?" If there is an answer to this accusation it would probably be that the law properly depends on precedent and that it is socially necessary to make haste slowly, since the law must remain hitched to the accepted opinions of the community and it takes time for the community to absorb sophisticated scientific ideas. Another instance is the allowance by judges of awards for cancer alleged to have been caused by injury, though this popular impression is against all medical evidence. Dr. Lionel S. Auster of New York estimates that only about six out of every 100,000 cases of neoplasm show even the slightest possible relationship to injury and notes that experimentally it has never been possible to produce a tumor by a single trauma. The law's faith in the efficacy of capital punishment is another example. For an ethical refutation one has only to read Jerome Frank's "Not Guilty" or Arthur Koestler's "Reflections on Hanging." The psychiatrist adds that there is no deterrent effect by capital punishment, as abundantly proved by many sets of statistics, and that the need to inflict such penalty has its roots in the unconscious constraint to control hostile impulses within ourselves and to dispose of our own hidden guilts. The law might contest this, sworn as it is to a doctrine of free will that modern psychology cannot accept. The attorney would perhaps defend the institution of capital punishment as a traditional defense against the chaotic forces in civilization, with the unspoken fear that without this extreme recourse people would run amok in aggressive crime. With all obeisance to the position of a fellow professional, the psychiatrist is still bound to state that the irrationality of capital punishment is clear and that there can be no argument about it. In fact, as many lawyers as physicians are in the van of the fight to abolish it.

The doctor's last expostulations to his brother the lawyer involve the general techniques of the law, and the reply would be that these merely highlight the doctor's ignorance of the legal craft. With his high regard for an absolute answer the physician is likely to look to the law as a final arbiter in regulating social health. He does not see it as realistically as does the attorney, who apprehends a self-contained professional system, a set of precedents, often fictional and sometimes mystical, but well adapted to the practical needs of society for decisions that will fit the accepted beliefs of the time and will keep both private and public business oiled and moving. The doctor often can literally not comprehend the idea of the adversary proceeding as a method of arriving at truth. Its partisanship outrages him. The lawyer will answer that no fairer means has been found and that a public encounter, with all parties heard, is the only known safeguard against legal tyranny. The physician objects that he cannot credit a contingency fee arrangement, which by the tenets of his calling is wildly unethical. The attorney replies that unless he is willing to make this personal bargain the poor could never obtain their day in court. The doctor, like other legal laymen, finds it hard to understand how a lawyer can consent to represent an accused man whose guilt seems manifest. The lawyer responds a little wearily that no one is guilty until so proven and that in the meantime he has a democratic right to the best defense that society can provide. The history of America is full of examples of lawyers who were courageously willing to plead the cause of the unpopular. As early as the days of the Boston Massacre, John Adams and Josiah Quincy, Jr. served as counsel for a British captain who had participated in that action. Doctors, with their reverence for professional expertise, are sceptical to the point of contempt about the jury system. But attorneys see it as one of the guarantors of liberty, as Sir Patrick Devlin has called it, "the lamp of freedom". Furthermore it can be supported as a symbol of democracy, the citizen's chance to participate in the process of public order, and the way by which the harshness of the inherited law is softened and brought into contact with present social reality. As Judge Charles E. Wyzanski, Jr. of the U. S. District Court of Massachusetts has stated it, "Traditionally juries are the device by which the rigor of the law is modified pending the enactment of new statutes." In destruction of the physician's expressed preference for decision by the judge alone probably no one has put it more succinctly than G. K. Chesterton, when he said, "I would trust twelve ordinary men, but I cannot trust one ordinary man." Finally the doctor is more than a little impatient with insistence on legal procedure; with his training in the absolutes of medicine he values only the substantive law. Here the lawyer might

respond with some exasperation that the whole saga of western civilization disloses the fact that historically freedom was won by claiming for everyone the right to impartial legal procedure, to "due process", and that the means of the courts not the words of the law have proved to be man's protection against dictatorship and his insurance of personal liberty. The attorney is much less impressed with judicial decision than the legal layman, but he is much more impressed with the procedures that pledge to every citizen his fair chance in open hearing. Thus results the paradox that the lawyer, a sworn officer of the court, is little awed by legal authority.

Let us now trade interrogator and respondent in our Socratic dialogue. What are the lawyer's complaints about the doctor? First of all he would say that the doctor refuses his duty as a citizen when he will not testify against other doctors in malpractice suits. Here there is certainly some substance. The public widely believes this to be the fact. Harry Golden, the newspaper editor and columnist, recently noted that the loyalty of doctors to each other is "immense." In contrast he says, "Perhaps because of the nature of their work lawyers are a little more sceptical about colleagues." At least in Arizona, recent developments take some of the force out of this accusation, as will be remarked below. The plaintiff's counsel thinks he finds a similar disinclination on the part of the physician to testify against a large corporation or insurance company, some going so far as to grumble that they have difficulty in obtaining testimony. This they would blame on the class identifications of doctors and their unconscious defense of other members of their social group. There is some justice in this imputation. The physician as a good citizen should always be willing to make his knowledge available to the courts to assist in a just disposition of disputes, even at the cost of his time and occasional personal discomfiture.

Some attorneys have objections to high fees charged by physicians for expert testimony, to which the doctor too often feels that he makes adequate reply by gibing at the lawyer's contingency percentage remuneration. It is hardly an answer to imply that both professions have some kind of right to mulct the public. We should regard our courtroom appearances as another professional service, to be charged for on the basis of how much the time spent would have brought in our practices. The attorney also has a cynical conviction that doctors can be bought to represent either side. The ethical physician replies that this is true only of the "specialist" in expert testimony, and that the honest doctor abhors this practice and will only give a medical opinion as he sees it. This seems a fair answer. Part of the difficulty in varying viewpoints on the proper position of the expert medical witness is a semantic one, for the doctor conceives of "cause" far differently than the lawyer. He seeks the ultimate determinant, not the precipitant, since he is bound by his need to think in terms of therapy and not in terms of assigning blame. And in a nice switch on the pragmatic lawyer, the physician adds that medicine too is not an exact science and that the notion of "reasonable medical certainty" is often totally inapplicable to his determinations.

Perhaps most of all the lawyer would, in the private company of his confreres, inveigh against the doctor's smug arrogance about the law, which leads him to sweeping pronouncements that merely display his ignorance of the historical process that has erected the modern legal structure and of the sustaining role that it plays in our culture today. To this there seems to be no rebuttal except the physician's willingness to be edified and the lawyer's willingness to teach him. It is painfully clear that the attorney has been more inclined to learn about medicine than the doctor has been to learn about the law.

Ending the debate and proceeding to the concrete conclusions it suggests, one might first indicate ways in which the physician can contribute to better use of medical knowledge in the courtroom. First, he should prepare more accurate definitions of incapacitation after injury. A start has been made on this through various guides being published under AMA auspices. Second, he can clarify the problems of mental status and use his influence to see that enlightened modern legislation is enacted. He can, third, repair his own lack of co-operation by manifesting willingness to testify in court in either malpractice or personal injury cases. And last, he can, on invitation of the local bar association, contribute to the education of lawyers. By this I do not mean acquainting the lawyer

with medical interpretations that will enable him to get juicier verdicts or, conversely, to nullify a justified award completely. I mean some basic education in the true facts of health and disease and the welfare of the sick and injured.

The lawyer on his side also can reduce this controversy between the professions by the indoctrination of the physician in the law and by acting to bring the law closer to scientific medical fact and social need. He can first, through the local medical society, slowly bring the doctor to some understanding of the necessary conventions of the law, discuss the pros and cons of the jury system, and teach the lesson that apparently obstructive procedures are truly the citizenry's traditional shield against legal or governmental despotism. The bar is actively exploring ways of reducing trial delay and of adjusting personal injury law to social reality. One plan in the latter area is the substitution of the concept of comparative negligence for that of contributory negligence by which a plaintiff is prevented from recovering damages if his own negligence has contributed even in a minor degree to causing the accident. The comparative rule would merely decrease the award by the percentage that is accounted for by the plaintiff's negligence. Another device is the reduction of automobile liability suits by instituting a compensation plan similar to workman's industrial insurance, recognizing that motor vehicle accidents are an inevitable concomitant of a mechanized society, and proposing that a fund be set up from which scheduled awards would be made, regardless of fault. It is not too far a cry to extend this principle to all injuries. Perhaps this would be regarded as a limitation on the personal liberty to seek redress, but the doctor would regard it as a release from the nonsense of damage suits. An option could always be included that would allow individual recovery at law under certain circumstances, as in Arizona's Workmen's Compensation Act.

Finally there are several projects on which doctors and lawyers can work together. One that is already being successfully pursued in this state is the medico-legal pretrial panel that investigates malpractice cases before they are brought into court. This was inaugurated in Pima County as the joint conception of Dr. Ian Chesser and Mr. Robert Lesher and has been widely admired throughout the country. It provides greater legal security to the blameless physician; it also gives the attorney, if he has a justifiable case, access to unimpeachable medical testimony. In practice to date it has prevented almost all malpractice disputes from coming to the public attention of an open trial and has thus served both the innocent physician and the patient, who learned that his grievance was mistaken. In a similar way lawyers and doctors might unite to achieve wider use of the impartial medical witness as *amicus curiae,* the court-employed expert. This system is now being tried in many parts of the United States. Physicians welcome the idea; with their concepts about disease, it is much more acceptable to testify without the taint of partisanship. Lawyers too have accepted the scheme, though there are dissents. Some have protested that its fundamental basis is faulty because it assumes that medicine is an exact science, whereas it is well known that competent and honest experts will disagree on the interpretation of identical medical facts. Calling a doctor impartial does not mean he is right, observes Elwood S. Levy of Philadelphia, and yet the court appointment cloaks him with infallibility. The procedure is further objected to as doing violence to the adversary proceeding, which is small loss in the physician's eye. There is, however, substance in the contention that the system of the court-appointed expert substitutes trial by a single witness for trial by jury.

There are many other problems on which lawyers and doctors can and should by choice employ a bidisciplinary approach. Among them are penal reform; the efficacy of various kinds of punishment; the teen-age criminal, the so-called juvenile delinquent, who is merely an underage person who breaks the law; and better use of modern knowledge of behavior in juridical dispositions. In fact the entire theory of criminality demands a new legal interpretation in the light of the findings of modern social science and psychiatry. Changes are coming. The Durham decision is only one. The conclusions of the American Law Institute in 1955 that adultery should not be a statutory crime and that private homosexuality should also not be enjoined by law are other landmarks. In that session Judge Learned Hand, perhaps America's foremost jurist, commented, "Criminal law which is not enforced practically is much worse than

if it was not on the books at all. Sodomy is a matter of morals, and it is not a matter that people should be put in prison about."

Each of the two great professions could do no better than to attain the ideal that the other holds for it. The doctor expects the lawyer to stand for and achieve justice, and the attorney who finds this view naive and uninformed might do well to pause a moment and realize the trust that legal laymen put in him in the mere expression of this reliance. Perhaps it is time for the lawyer to lead the advance more rapidly toward social justice as the world anticipates it. E. S. Robinson in his book, "Law and the Lawyers," remarks that lawyers are a priesthood with prestige to maintain. "They must have a set of doctrines that do not threaten to melt away with the advances of psychological and social science." It is time for abandonment of those ancient restrictions. The physician looks to the attorney to represent what David Riesman calls "the beneficent use of law in the public interest." And that is high compliment.

The doctor on the other hand is generally admired by the lawyer, who has an image of him as the selfless guardian of health and minister to the sick. The physician can appreciate the obstacles that come from a hierarchical inheritance, for medicine is directly descended from a priesthood. The doctor too can now abandon some of his outworn prerogatives and conventions and enter into the common arena. The attorney believes that the good physician will offer his science and his knowledge unstintingly in the service of public justice and public health. And that too is high compliment.

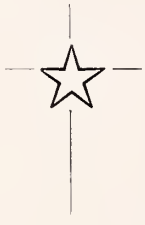
NEW DOCUMENTARY HISTORY OF MEDICINE

A non-commercial, capsule history of medicine — from ancient time to the present — has been produced by White Laboratories and is available for medical and lay group showings. Title of the film is "69.3".

This unusual title is derived from the theme of the film, which reveals how medical progress over the years has helped raise our average life expectancy at birth from about 20 years in ancient time to the present 69.3 today.

The film is narrated by Alistair Cooke, who gained fame on the TV series, "Omnibus," and was written by Irve Tunick, winner of the Robert E. Sherwood writing award. Dr. Robert L. Swain was technical advisor.

The documentary is a black-and-white 16mm film, and runs 13½ minutes. Requests for free bookings should be sent to: Institute of Visual Communications, Inc., 40 East 49th Street, New York 17, N.Y.



Season's Greetings

from

Arizona

Medicine



Editorial

GUEST EDITORIAL
FEDERAL AID TO EDUCATION

It has always been said that but "two things are inevitable — death and taxes." If either of the two major political party platforms are carried out, as they were written, then two more inevitables will be added — socialized medicine and federal aid to education. Both of these, however, have no place in freedom-loving America.

In addressing the members of the medical profession of Arizona, I need not dwell on the evils and consequences of socialized medicine, but you may not be so well informed concerning the question of federal aid to education. So, without attempting to cover the field in detail or boring you with too many figures and statistics, may I merely hit the high points of the national question and be a bit more specific in regard to the financing of Arizona's public schools.

There has been, of course, for years, a drive among our more socialist-minded educators and Washington bureaucrats for direct federal financing of the public schools; but, never before have the candidates for President, of both major political parties, advocated such a "welfare" step. The basic premise behind this drive, although not admitted as such, is "thought control." Loudly protesting against this fact though, our social-

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)

ist welfarers shout that the individual states "NEED" and "must have" this assistance from the federal government in order to even catch up, let alone keep up, with the Communist educational system. But do we as individual states actually need — or better — can we afford such "Indian-giving?" Statistics show that the individual school boards have done a commendable job in these post-war years; for, while the school population has increased by approximately fifty per cent, the school boards have provided the school buildings to house these additional children, recruited the teachers to staff them, raised teachers' salaries and, in general, have provided for better schools today than in any previous time in history. This achievement has been brought about by a tripling of the public school expenditures — from $4.3 billion in 1947-48 to $14.4 billion in 1958-59. Most of this money has come from the property taxpayer, and we readily agree that he is carrying more than his share of the load. Obviously the cost of the public schools is going to continue to rise; it has been estimated that it will require a fifty per cent increase in the next decade just to accommodate the increased enrollment alone. Where is this additional money to come from? We say the large majority of it must come from the individual states. Why? Because they have a much wider tax base, and because in many instances the states have not been carrying their just load. This latter, we feel to be especially true in the case of our own state, where "big industry," by its stranglehold on our state legislature, has not permitted bills to pass that would have kept the state in line with her obligations.

Most proponents of federal aid agree that the additional financial aid should come from the state, but contend that the state isn't going to provide it; hence "we must turn to the federal government," whose bureaucrats are already trying to stuff it down our throats and will then tax us double for it. Oh, that we could but reverse our state and federal income taxes! The states should be allowed to keep a greater portion of their own tax revenues. However, in order to provide the money for the various federal subsidies, the federal government has pre-empted so many of the other tax sources from the state. The sound method to aid the schools would be to stop this vicious cycle of sending more and more money back to Washington, and getting relatively less and less back in the form of "doles."

This could be accomplished by reducing the federal income tax and by repealing many fedcral taxes, particularly excise, giving the states a chance to reimpose as many of them as necessary. For instance, telephone and telegraph taxes raise $700 million a year, federal tobacco taxes run to nearly $2 billion, estate taxes $1.2 billion, beer taxes $800 million, etc. Their repeal would not affect the federal budget if the subsidies were unloaded at the same time. The release of the many federally controlled utilities and industries to the states, or to private ownership, would be another almost unlimited source of funds for the states.

When our Constitution was adopted, all powers not given to the federal government were reserved to the states. Education was one of these powers. In their wisdom, our forefathers provided that education should be decentralized. The states and local property taxpayers have thus provided for the education, down through the years, that has, in the relatively short span of our history, advanced us to the unquestioned position of world leader. But here again our well-meaning friends, who feel that only Washington can solve any of our problems any more, scream that because of the urgency thrown on our education system by the Russian sputnik and because of the almost unbelievable mushrooming of the school population, the states are no longer able to meet this crisis. Can this claim really be true in wealthy United States? The Committee for Economic Development, after a thorough study and extensive survey of the problem, concluded that federal assistance should be provided only for those states where there are extremely low personal incomes in relation to the number of school children. They further concluded that but thirteen states were in this category. However, it is further revealed that of these thirteen states, eleven of them were at least trying to support two separate school systems; one for the white and one for the colored. Should our tax money be used to support such an unconstitutional act? Further, when one scans the list of states with the below average personal income, one notes a number which have, instance after instance, induced industries to leave states where school

taxes were and are considered to be high and where all businesses pay their fair share of the taxes, to come to their states where they are promised tax moratoriums of some ten or fifteen years, or other such inducements. And still again our well-meaning friends will say, "But congress has already appropriated the money, and if we don't take our share, somebody else will use it." It seems never to occur to our liberal friends that money doesnt' grow on trees (even in Washington); that we have a seemingly ever-mounting national debt; and that if something isn't soon done, not only to balance our national budget, but also to drastically reduce our national debt, our beloved country will no longer be the "land of the free," but rather the land of the slaves to a centralized bureaucracy in Washington.

Without federal aid, local school boards have built 680,000 classrooms since the last war and raised teachers' salaries ninety-nine plus per cent. A noteworthy accomplishment to be sure, but an accomplishment which has demanded more of a sacrifice on the part of the local property taxpayer than it should. So, what is the answer? How are we going to pay for these more and better public schools?

There is no question but that the states, with their broad tax base, should assume the bulk of the increased school costs that lie ahead. The big problem, of course, is going to be to get state legislatures to recognize and accept this as their responsibility. Being dependent as they are on so many different groups, and with so many lobbyists and pressure groups working on them all the time, it will take real dedicated leadership in both houses of the legislature to put through the necessary bill. But it can and must be done.

Now, briefly, what can Arizona do to meet this crisis?

1. The state legislature should, by mandatory action, bring about immediate reorganization of our smaller school districts into larger, more efficient and effective (and at the same time, much more economical) districts. In 1952 the legislature paid some $25,000 for the Griffenhagen report, which survey recommended the districting of our state by counties for financial purposes. However, nothing was done concerning this recommendation.

2. The state legislature should immediately set up a state school fund, from which needy school districts could borrow money for capital improvements at a low rate of interest. Some sixteen states now have such a fund.

3. The state legislature should increase the ten cent levy fund to a realistic figure (most states have gone to at least twenty-five and fifty cents, and others even higher).

4. Since some twelve school districts in the state have now reached their statutory debt limit of ten per cent, the state legislature should increase this limit to fifteen per cent, as a number of states have been forced to do.

5. The state legislature should provide the greater portion of the money needed to provide "a basic foundation program" for each public school child in the State of Arizona. A leading school finance consultant — one who has set up the program in a number of states — advises that when the state will provide between fifty and sixty-five per cent (the optimum seeming to be about fifty-five per cent) of such a foundation program, then the individual property taxpayer's burden will be lessened and he will, in most cases, be able to carry his share of the load without undue hardship.

6. And finally, the state legislature should attempt to remove the office of Superintendent of Public Instruction from politics, and let him be hired by an appointed board similar to the Board of Regents hiring the university presidents, Some will question, what has this to do with financing the public schools? To which we will simply answer: An administrator who doesn't have to spend a large share of his time getting re-elected, can provide sound counseling and innumerable ways of saving the state and school districts money.

Such action at the state level will most certainly not only prevent the extension of the cancer of federal aid to education, but will also continue the progress of public education in the United States to ever greater and greater heights.

D. L. Secrist, M.D.

EDITOR'S NOTES FOURTH NATIONAL CANCER CONFERENCE — 1960

(IN TWO PARTS)

PART I

Precancerous Lesions — This is a questionable term and probably an improper term. We do not know which lesions are truly precancerous. Ackerman(12) has shown that practically none of the proved thyroid cancers arise from a previously existing adenoma. However, in spite of this, he encourages that all nodules be removed, for one does not know which nodule is the malignant one prior to getting it under the microscope.

In the past keratosis of the larynx has been considered a precancerous lesion, yet this quality of being a pre-malignant lesion shows a very low incidence of conversion to cancer. Consequently, are we correct here calling this a pre-malignant lesion?

The adenomatous polyp of the colon has always been considered to be a precancerous lesion; yet it is difficult to prove that this hypothesis is correct. The distribution of polyps does not coincide with the distribution of cancer in the colon.(12)

If the concept of a precursor lesion is correct, that is, a lesion which may go on to be a cancer, it is very likely that the whole area where this precursor lesion arises has had some exposure in the past to a carcinogen. This exposure is not limited to the site of the development of the precursor lesion or the malignant lesion which eventually develops, but includes the entire area.(10)

Pathogenesis of Tumors — Tumors show a discontinuous development. There are intermediate stages between the normal before the development of an obvious cancer. Some of the lesions actually get into the precursor phase and then regress with only a small portion going on to a carcinoma. Of those lesions progressing to a carcinoma, some will advance to a more malignant or more anaplastic phase. One cannot predict what any one lesion will do.(10) For example, with neoplasia of the basal epithelium of the cervix uteri, this basal epithelium may convert directly into an invasive cancer. Or, however, it may reach the malignant phase by going through a carcinoma-in-situ and then to an invasive cancer. However, the carcinoma-in-situ itself can regress or persist; or the basal epithelium can convert to a dysplasia, which can regress or persist or convert into an invasive cancer.(10)

Fundamentally, three main steps of development are often distinguishable. With the application of a carcinogen, there is a relatively rapid establishment of a state of incipient neoplasia which involves the entire area of exposure to the carcinogen. At this time there is not necessarily any growth or multiplication of cells or any other specific clinical or histological abnormality. Yet the tissue has been permanently altered and has acquired new capacities for progression to overt neoplasia. Secondly, after a considerable delay and with or without further stimulation from the carcinogen, visible lesions will emerge either locally or multifocally within the region of incipient neoplasia. These alterations are often multiple and varied; many are imperfect neoplasms. Finally, as a third stage, malignant tumors emerge. Some tumors develop by progression in the lesions established in the preceding stage, but others may emerge where no precusor lesion had existed. And they may emerge for prolonged periods after other lesions have regressed.

The early lesions are subject to diverse fates; some regress, some persist indolently, some grow progressively as benign tumors, and usually a small minority progress to malignant tumors. These lesions are precancerous only in the sense of a certain statistical probability of progression to carcinoma, and there is, usually, perhaps always, an alternate possibility that carcinoma will emerge elsewhere within the region of incipient neoplasia. Carcinoma-in-situ must be interpreted as an imperfect carcinoma from which

invasive cancer may develop by a progression of changes that confer properties of invasiveness on the malignant lesion which were not manifest or evident in the earlier lesion.(10)

At present the literature carries cases of 120 instances of spontaneous regression of proved cancer, proved by biopsy with adequate medical work-up and pathological study and a later proved complete regression of the malignant tumor.

Genetic Concepts of the Development of Malignant Change — Specific genes have been identified on specific chromosomes that are related to specific types of carcinoma.

The propagation and transmission of cancer viruses is under the control of genes. This may come about as in transduction, in which both the gene and virus are changed, and then by lysogeny where this transmittable alteration is transmitted to each daughter cell. The gene has been altered, but the virus also has been so altered that it is not recoverable.

Genes further enter into the occurrence of cancer, in their influence upon the endocrine factors in the control of the production of the hormones and in their control of the response of the end organ to the hormone.(32)

Chemical Carcinogens — Such as the polycyclic hydrocarbons, aromatic amines, nitroamines, aminostilbenes, azo compounds and metals, must operate by biochemical routes which are initially very different, but they may lead to a similar end result.(29)

It is doubtful that in the laboratory we have ever produced a tumor in a specie that could not have occurred in that specie spontaneously.

The carcinogen may work effectively as a tumor stimulating agent with the proper background, i.e., with the proper pre-existing change, that pre-existing change modifying the response of that animal to the carcinogen. With the chemical carcinogen there is a critical dose level, a certain amount that is needed to be tumorogenic. A greater amount is no more effective as a carcinogen.

The response to a carcinogen may vary with the dose given in the same specie, may vary with the different species to which the dose is given, may vary with the age it is given to a specific specie, or it may precipitate different tumors in different species. And some species may be immune to the tumor. Or, altering the dose may change the type of the tumor produced in the same animal or in the same specie.

The single carcinogenic chemical (DMBA) may give rise to entirely different neoplastic responses depending upon the species of animal used, the age of that animal, the dose of the material, and the route of administration.(13)

Chemical carcinogens may work as co-carinogens. Urethane, if applied to the skin, can promote but not complete a skin carcinoma. If taken orally, it cannot initiate leukemia, but it can complete the development of leukemia.

Immunology — Treatment by this means can be passive, active or non-specific.

Passive therapy — normal globulin has been used with disappointing results; only one in 13 patients improved. The serum of a patient who has had a spontaneous remission will alleviate the recipient patient with a tumor of the same type. This has been noted in a specific case of melanoma. This recipient patient has had a complete remission for over five years.(19) Murray has developed a common antigen from horse serum, and presumably some patients have been benefitted. Bjorklund serum has given some good results.

Active immunity could be obtained with the use of vaccine prepared from a common antigen. The lipoprotein present in the cancer of man is a common antigen, but little work has been done here. A specific antigen has been developed using a cellular suspension of cancer cells with the addition of Freund's adjuvant. The vaccine is made from the suspension of fresh tumor cells in an equal volume of Freund's adjuvant (85 thin mineral oil, 15 emulsifying agent Arlacel A and 0.25 killed tubercule bacilli). The vaccine is given intradermally in the anterior aspect of both thighs, .1-1 cc. into each site. Most of the patients have developed an ulceration at the site that the vaccine is given. One patient de-

veloped a tumor at the site of inoculation. One year after treatment, of 26 patients with the vaccine (all had advanced pelvic cancer), 11 or 42% were alive and five were symptom free. In 21 comparable patients treated with radiotherapy, two were alive at the end of one year and one symptom free. In 19 similar patients treated with chemotherapeutic agents, three were alive, none symptom free. Therefore, one is inclined to believe that there has been some beneficial influence in a minority of the patients with the use of this vaccine.

Non-specific immunity with the use of proparidine has given only disappointing results to date.

Animals can be immunized by inoculation with cancer cells.

The serum of a normal patient is more destructive to cancer cells than the serum of the patient with advanced cancer.

Patients with malignant disease have been found to elaborate a factor which has been isolated from their serum which will lyse their own cancer cells. Certainly some patients produce antibodies to their own cancer.

As stated above, there is a common antigen in the carcinoma of the human, a lipoprotein.(19)

In rats the transplantable ascitic tumor may be and is inactivated by serum containing an antibody. This serum may be used effectively both on a therapeutic and on a prophylactic basis in these animals.(42)

Radiation — It is well established that radiation may cause any form of cancer if absorbed under appropriate conditions by a susceptible host. The mechanism of this carcinogenesis by radiation is not known. In some instances the carcinogenic effect of radiation may depend upon the activation of a virus.

There is a reversibility in the development or evolution of certain growths stimulated by radiation, indicating that this is a step-wise pattern of neoplastic transformation, a thought that is not inconsistent with the multiple mutation or viral hypothesis of cancer, but does exclude any simple all-or-none mechanism.(4)

The probability that cancer will result from any given dose of radiation varies enormously with the form of cancer in question, the constitution of the irradiated subject, the manner in which the irradiation is absorbed and many other environmental variables. In no instance has the probability of cancer been a simple linear function of the dose. In fact, many forms of cancer have been found to decrease in frequency with increasing dosage levels.

X-ray irradiation may act by causing: 1) a hormonal imbalance, 2) activate a virus, 3) cause somatic alteration, 4) may depress host immunity. It may act directly as a carcinogen or as a co-carinogen.(4)

In therapy with irradiation, the combination treatment with x-ray and Actinomycin D has demonstrated favorable responses in patients with Wilms's tumor, Ewing's tumor, hemangioendothelioscarcoma and rhabdomyosarcoma. The simultaneous treatment with radiotherapy and chemotherapy in low doses was more effective than higher doses of either component alone and brought about therapeutic effects of longer duration.(42)

A significant development in irradiation therapy is the technique of removing large quantities of bone marrow from a patient before irradiation, quick-freezing the marrow and giving it back to the patient as needed after the irradiation is completed.

Chemical protection against irradiation has been observed in animals. In man this is not true, and there is a need for drugs with lesser toxieity. AET protects mice against the toxic effects of irradiation and also of nitrogen mustard and does not suppress the anticancer effects of either of these modes of treatment while controlling some of their toxic effects.(42)

Viruses — As with the chemical agents, the heterogenicity of initial reaction probably applies equally for the oncogenic viruses. The question remains, to what degree do chemical and physical carcinogens operate by the activation of a latent virus, or do viral agents introduce changes in the genome which can be induced by

chemical or physical agents?

No virus has been isolated to date or which has been proved to cause malignant disease in a human. There may be a single genetic factor in a host which will determine the infectiousness of a virus. The virus itself is composed of a nucleic acid center with a protein overcoat.(43)

The quantity of virus introduced may determine if a tumor is stimulated, and if a tumor is stimulated, that quantity of introduced virus will also determine the rate of growth. The virus itself may not be recoverable after forming or stimulating the formation of the tumor, the genes of the host probably having changed the virus itself. An antiviral substance has been proved to be produced.(3)

In various laboratory animals there have been more than 12 viruses isolated which will elicit tumors. These viruses may be strain or specie specific. The viruses in these animals may be complete oncogens or may require a secondary factor to produce a tumor. Of the complete oncogens we have the fowl tumors and the polyoma virus. Of the incomplete oncogens, that is, the virus needs a second factor to act jointly; with the milk tumor virus, a hormone is needed; with the mouse lymphatic leukemia virus, there must be a thymus present in the animal; in the Shope fibroma, there must be an external application of a carcinogen.(3)

Stewart and Eddy have demonstrated the release of an oncogenic virus in culture fluids which will produce multiple types of primary tumors in mice, hamsters, rats and rabbits. This has been designated the polyoma virus. This virus cannot be demonstrated in extracts of tumors without the use of tissue culture. Possibly this inability to demonstrate it in the tumor is due to the low concentration of the virus in the tumor or the presence of antibodies to the polyoma virus in the host bearing that tumor.(37)

Extracts and concentrates prepared from human neoplastic tissue have been reported to produce tumors in mice. This may be an inoculation of a specific virus or possibly only the injection of non-specific material which activated a latent virus in the host. (37)

". . . there is no evidence available that the virus alone can be considered as the sole cause of all malignancies." If we could assume that viruses are integral parts of certain cells and that these cells usually lead a normal life in spite of or because of the permanent presence of symbiotic viruses, then if such a virus-infected but otherwise normal cell is exposed to one or more factors which can act on a "virus-infected" but not on a "non-infected" cell, malignant change may be the result of this inter-action of an infectious and non-infectious factor.(3)

Hormones — Action of hormones in tumorogenesis — they can play an endogenous role with an hormone imbalance, or the hormones may play a secondary role. In the first case, the endocrine factors are the causative ones of tumor induction and growth as illustrated by the estrogen-induced mammotropic pituitary tumors. Secondly, the hormones may act as cofactors with an extrinsic carcinogen as illustrated by experimental imbalance, initially these are dependent tumors which grow only in the presence of the endogenous imbalance. There is probably a cytoplasmic change. In time these dependent tumors change and become autonomous tumors, and then the change is nuclear in nature. However, if the imbalance is corrected during the phase of the tumor when it is still in the dependent phase, there may be a regression. However, if the imbalance continues, in time there is a release of the dependent tumor cells from the requirement of endocrine imbalance, and the tumor shifts into an autonomous state. In contrast to the tumors listed above resulting from an endocrine imbalance, carcinogen induced tumors of rats are immediately autonomous.(2)

In therapy, hormones are used in the treatment of carcinoma of the prostate, initially with castration, to be followed by estrogen therapy. Cancer of the endometrium is found to respond in many cases to progestional hormones. And the corticosteroids are used in lymphomas, advanced breast cancer and in multiple mycloma with hypercalcemia.(17a) Androgens and estrogens are used in advanced cancer of the breast.

Spread of Tumor Cells — Malignant cells are found in the regional veins draining a tumor site in 80% of lung cancer cases, in 55-60% of cancers of the stomach and in less than 50% of the

patients with malignancy of the colon. A similar incidence of tumor cells has been found in 11 examinations of bone marrow and the regional blood vessels.

There is a correlation, but a poor one, between the number of cells found in the circulating blood and the survivorship of the host.

There are a greater number of implants or takes of cells escaping into the peritoneum than of the malignant cells escaping into the blood or lymphatics.(11)

Recovery of tumor cells from washings of the peritoneal cavity range from 30% in cancer of the colon to over 80% in cancer of the ovary.

Tumor cells can rather frequently be recovered from the thoracic duct in patients with cancer of the lung, but rarely in patients with advanced cancer of the colon.(11)

While all types of cells may be discharged from the primary tumor into the blood or lymph, only the heteroploid cells may be able to establish metastatic foci.(42)

There are so many cells in the circulating blood of the patient with cancer prior to surgical manipulation that one is forced to question the significance of manipulation in the spread of cancer.(13)

The growth of metastatic cells in the various organs is not similar. Tumor cells can be recovered from the liver, brain and muscle for several hours after cell injection. None remains after 12 hours, and metastatic growth is extremely rare. However, if the animal receives cortisone prior to the injection of malignant cells, tumor cells can be recovered from the liver in nearly 100% of the animals, and cells may be found in the circulating systems 72 hours after injection. Cortisone seems to decrease the resistance of the host to the implantation of the circulating malignant cells.(11)

Some of the patients show a rapid development of distal metastasis for the first time shortly after surgical or irradiation treatment to their primary tumor.(42)

Cancer of the Skin — Epithelial cells of the epidermis, hair follicles, and cutaneous glands, all of which are derived from the secondary ectoderm, remain pluripotential and to a great extent equipotential throughout life. The basal matrix cells ordinarily mature to form prickle cells and keratinize. But prickle cells may reconvert to basal cells during wound healing. Hair follicles and sweat glands can form new epidermis. Epidermis can probably form new adnexa. However, pigment-forming cells are derived from neuroectoderm, and therefore melanocytes and melanocytic tumors are basically different from epidermal cells and their tumors. Further, the role of the mesoderm as a controlling factor in normal and abnormal growth is just being recognized.

Skin cancer does not present a sharp boundary between the benign and malignant neoplasia. One must divide the ectodermal tumors into those resembling epidermis and those resembling adnexa. This classification does not imply origin from separate sources and does not contradict the pluripotentiality of normal epithelia. This classification of epidermoid and adnexoid tumors implies that tumor cells have lost some of the potentialities of normal cells and have become fixed in one course.(28)

Epidermoid tumors may be classified into the benign tumors of which we have papillomas and under that warts and keratosis; malignant tumors as squamous cell carcinoma; and a third group that does not fit the definition of malignancy. The keratoacanthoma are "self-healing" squamous cell carcinomas.

The benign adnexal tumors consist of the adenomas and trichoepithelioma. The malignant tumors are adenocarcinomas. And a specific group which is made up of the basal cell carcinomas. There is mutual interdependence of ectodermal and mesodermal components.(28)

Malignant acanthosis nigricans is a benign dermatosis, yet a clue to internal carcinoma. There is an association with carcinoma in almost 100% of the cases. The two lesions run a parallel course; as the carcinoma progresses and regresses, the skin lesion progresses and regresses. The associated internal tumor is always an adenocarcinoma. It may originate in stomach, pancreas, cystic or hepatic ducts, colon, rectum,

esophagus, uterus, ovaries, prostate, breast or lung. The dermatosis may preeede the internal malignancy by 10-16 years.(35)

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MEDICAL SCHOOL LEADERSHIP

The intent of our teaching centers must be questioned as they prohibitively expand their house staffs to a point that they have inadequate clinical material for these men; and by so including many on their house staffs, there is an unreasonable drain upon the available interns and residents for other qualified hospitals.

With the expansion of medical care insurance, these large house staffs in many cases are afforded limited clinical experience. This has been proved to be so small in a number of cases that residents from excellent teaching institu-

tions are taking added work in secondary hospitals after they have completed their period of training for board qualification. The training for the boards in the various specialties is now so prolonged that this is an unjust demand upon these men to take further time to have the opportunity to do surgery and to be directly responsible for patients.

Many of our teaching institutions should so cut back their table of organization for their house staff that the men can be properly trained upon completing their residency program.

Further, one is forced to question the leadership shown and the training given to our medical students in medical economics, the changing social structure of America, and the public relations of medical practice.

Whether we desire it or not, the last 30 years have given us many socio-economic changes that will not permit the return to the economic structure of our fathers. In many aspects, that return is not desired. Our schools are not taking adequate steps to better adapt the students for this changing socio-economic outlook.

DWN

COUNTY, STATE AND AMERICAN MEDICAL ASSOCIATION

Is there adequate self-criticism within medical organizations? And are adequate steps being taken to correct inequities and injustices?

With the increase in health insurance, plus the shortage of hospital beds, it seems imperative within the near future that utilization committees be established at the various hospitals to eliminate those cases that will prove or do prove unjust claims against the insurance companies. These claims could become so great as to endanger the voluntary health insurance programs now in use.

Secondly, we give lip service to the effectiveness of the grievance committees at the various levels of the medical organization. However, their means of function is so cumbersome that at times these committees are ignored, and the criticism persists without receiving a satisfactory hearing. It is desirable that there be greater ease for filing complaints.

What active steps are we taking to eliminate that small percentage that we consider unscrupulous, the overchargers, the inadequately trained or those who have developed incompetence for any of many reasons?

We are inclined not to throw the first stone, for all of us are well aware there are incidents where we could have handled the patient more properly and adequately. This does not seem to justify our ignoring those whom we consider to fit the above classifications. It is this limited group that is the cause for the bulk of criticism against the medical profession and which, if allowed to continue, will enforce some controls upon our society.

DWN

EDITOR'S NOTE:

The editor can only apologize for his failure and the failure of the proofreader to pick up the error that appears on Page 666 of the November 1960 issue of *Arizona Medicine.*

Obviously, the statement, "We must defend the great body of medicine against private medical practitioners," was an error by the typesetter of inserting a segment of one sentence in conjunction with that of a succeeding sentence and developing the above statement, which does not appear in the original manuscript. We apologize.

Topics of Current Medical Interest

The Role of Professional Management

By

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The following news release will create as much national interest as many of the events now making headlines in our daily papers.

Datelined Chicago, it bears the following heading:

MEDICAL CARE CHARGES TO PATIENTS BY PHYSICIANS DOWN 4%
FUTURE COST REDUCTIONS POSSIBLE
INCREASED SERVICES RENDERED BY DOCTORS AT LESS COST

The American Medical Association announced today in Chicago that there has been a very substantial reduction in the fees which are charged by America's medical doctors. The reduction of 4% has been brought about in the face of rising costs in practically all other segments of the economy and despite rising costs in the prices which physicians pay for the goods and services which make up their overhead.

The announcement was made by Dr. Louis M. Orr, Chairman of the Association's Commission on Medical Care Costs and a past president of the Association. Dr. Orr stated that these reductions to the patient were made possible entirely within the medical profession through a program of studying and reducing business overhead costs in physicians' offices.

Joining with the AMA Commission on Medical Care Costs, to bring about this significant reduction were the Society of Professional Business Consultants and the Professional Management Section of the Medical-Dental-Hospital Bureaus of America whose memberships include the majority of the nation's leading professional business consultants.

During the same period of time which saw these cost reductions, the amount of medical

°Address given before the Arizona Chapter, American Academy of General Practice, October 13, 1960, Valley Ho Hotel, Scottsdale, Arizona.

care rendered to patients by Doctors increased by 10% as a result of better management methods. Both figures are exclusive of the medical care rendered without charge by America's physicians to the poor and indigent, which services have now increased to nearly 12% of the total medical care furnished by the nation's M.D.s.

In describing the mission of the Commission on Medical Care Costs, Dr. Orr stated:

" . . . when it comes to providing medical care and services we seek the best quality at the lowest possible costs. Any barrier which stands in the way of this objective should be removed . . . immediately."

NO . . . this press release has not yet been issued, but the significant thing is that it *could* be issued. The figures and amounts given are not wishful thinking. They are sound and actual figures of what is being done every day in well managed physicians' offices throughout our country.

Furthermore . . . the day this news release *can* be issued will be the day that American medicine will strike a telling blow against the forces of "liberalism" who seek to socialize the medical system which has given our people the finest standard of health care the world has ever known.

Using a rudimentary example let's see how this situation can come about.

Assume a flat reduction of 10% in overhead costs, all of which is passed on to the patient. In addition we will allow for an increase of 10% in the volume of practice which is a normal result of improved business operations.

On $100,000 of practice with an overhead of 40% and net of $60,000 a reduction of overhead of 10% or $4000 is passed on to the patient which reduces his overall charges the 4% stated in the news release.

Gross practice is then $96,000 and overhead is now $36,000, leaving a net of $60,000 exactly the same as before.

The reduction of overhead by $4,000 and total practice volume by the same amount gives a new overhead rate of 37½%. ($36,000 divided by $96,000).

An increased practice of 10% or $9,600 on $96,000 gives a new total practice of $105,000 to which the 37½% overhead is applied, giving overhead of $39,600 which leaves a resulting net to the office of $66,000, an increased net of 10%. Thus, patients get 10% more care by volume as distinguished from price, the doctor gets an actual 10% increase in net earnings and the cost of medical care and services rendered by the doctor to the patient is reduced an *actual* 4%.

While the figures used in the example are arbitrary, the percentages are conservative and will stand up because they are based upon actual accomplishment in offices over the nation by the nation's leading professional management consultants.

The figures of 10% for overhead reduction and that of 40% as overhead are conservative. Unfortunately a higher figure exists in far too many offices today.

If medicine is to succeed in its campaign to provide the highest quality and the greatest quantity of health care at the lowest cost, the matter of looking into and doing something about operating costs is mandatory. While it is of course, sound to point up and thoroughly publicize every added cost to the public from causes outside the profession; clearly as to matters within its own sphere, medicine must be like the queen . . . above and beyond any possible reproach.

The question is — how does this come about??

American business has been accomplishing this very thing for years . . . and in fact it is as a result of successful accomplishment by business that the growth and economic status of our country has come about.

The automobile, for example, is with us today as an integral part of our way of life because Henry Ford first put into practical operation the principle that by application of sound management, the product could be made better, sold at a reduced price and still bring a better

profit return to the manufacturer. As a concurrent and necessary part of such development it was necessary to bring together the functions of management, accounting and of financing — providing means of paying for the product.

It is readily recognized and admitted that the manufacture and sale of automobiles and the providing of so personal a thing as medical care are not to be compared as to nature of the product or service and this is in no way advocating "assembly line" medicine. However it does recognize and point up the fact that there is an economic and business factor in the practice of medicine that can not be disregarded from either the doctor's or the patient's point of view, unless of course, pure socialization of medical practice is adopted.

Management consulting began in this country at the turn of the century when business, as a result of the work of pioneers in the field of scientific management, recognized and accepted the basic distinction that *management is a separate activity,* completely detached from the mere *prerogative of ownership.*

As a result of this "break through" the field of independent management consulting has developed apace with the growth of business because of the absolute necessity for independent and objective appraisals as well as specialized knowledge and broad viewpoints, uninhibited by too close an association with operating problems.

Professional business management consulting has of course developed much later on the American scene since it is only recently that the economic side of medical practice has become important to the public generally and to the doctor particularly.

PROFESSIONAL BUSINESS MANAGEMENT has been defined as: "Analysis of a doctor's professional and personal business activities; the recognition of criticisms and their functioning; and the planning of remedial proposals with the direction and control of the determined actions."

The actual work of a professional management consultant, begins, or *should* begin with a survey of the office concerned . . . a complete physical examination including laboratory and X-ray studies so to speak. After all, the business consultant, if he is going to be the "family physician," should know all he can about the patient.

Even if the consultant is desired only for a specified purpose, such as a personnel or a work load study, or perhaps to examine the plans of a proposed new office layout, a study of the accounts receivable structure — or working out a program for a partnership, he can no more do a satisfactory job in diagnosis and prescribing than the physician who is asked to prescribe "something for my belly-ache, Doc," without an examination.

If the problem includes the personal business affairs of the doctor, then the survey or study will not be confined to the office alone, but will naturally have to include a detailed study of such things as life insurance, investments, real estate holdings, tax picture, obligations and the family and its future needs and requirements — estate planning, the making of a will and even possibly the extravagance of the doctor's family.

Certainly, in the office study and sometimes in the personal study of the doctor's life and family the consultant will examine and probe into personal factors of the people involved. This is the part I choose to call "psychosomatic management" although tomorrow's speaker on "Psychosomatic Medicine in General Practice" might not find it altogether consistent with the problems he will present.

When the management consultant has made the survey, then and only then is he in a position to get to the specifics — to diagnose the case, so to speak and to prescribe treatment.

In the course of study and diagnosis he must recognize which matters fall in the category of the "specialist" — for example the tax field or legal problems which must be referred to the doctor's attorney, the insurance specialist, investment specialist and the like just as you general practitioners do. In the case of life estate planning for example, the problems which arise must absolutely be referred to the lawyer and the accountant if the plan is to be successful.

The professional management consultant has all he can do for himself and for his client just staying in the field of management, and that field it must be remembered is his prime function. Business which gave management consulting its start does not expect or intend that the manager shall be a specialist in every field but insists that he be a specialist only in management and have the good sense to recognize and defer specialist problems to the specialist. It seeks and wants the overall management picture.

Distinction must be made between professional management consulting and professional business services. The former is solely a management function and the latter are distinctly products of management.

Bear in mind that the Professional management consultant may be and usually is a specialist in one or more of the specialty fields, such as a lawyer, an accountant, a tax expert, insurance or finance for example. Further he may as part of his services, offer and engage in one or more of the fields of professional business services. He does this because the need for those services being done on a strictly professional plane is not being met elsewhere and thus must be made available for his own clients to have these services.

In addition, he makes full use of his specialized talents by doing these collaterally and of most importance he is permitted to participate in the actual operations to the extent that he maintains close understanding of the pulse of operations and thus broadens his own knowledge and ability in the problems affecting the business side of medical practice. It would be a substantial contribution too the business side of medicine if all professional business services were carried on by or under the supervision of trained professional management consultants and conversely if all consultants were a part of the performance of the specialized professional business services. As standards of performance are being developed and required in these fields the time will undoubtedly come when such will be true.

It is important that recognition be given to the fact that in the role of professional management consultant, the consultant is in a position of professional trust to his client in that the activity he performs is of high individual responsibility and deals with problems strictly on an intellectual plane. Motivation is that of service and social duty and ethical responsibility in terms of medical ethics as well as personal ethics.

Of the greatest significance is the requirement that in the role of professional management, the consultant must remain independent in his judgment and thinking, and never be in a subordinate position.

Just as no ethical physician subordinates his professional judgment to that of the patient or anyone else, so must the management consultant be in the same position at all times. If clients do not like his honest advice he may regret it sincerely; but no one would condone his altering his honest opinion to avoid giving offense or collecting a fee.

With your indulgence I would like to read with pardonable pride a personal note I received from a management client just before leaving for this meeting which I think will illustrate this point.

> "Dear Ed:
>
> "Frequently I have found I fail to adequately express my appreciation to persons who contribute a great deal to my life. I want you to know that I am very grateful to you for the many extra hours you have spent on our problem, and assure you that any verbal friction was in no way intended to contest your advice. You have been very patient, very helpful, a sounding board, a friendly listener to a frequently emotional man. I respect you, need you, and sincerely appreciate all the many things you have done to help me."
>
> S/————————

Finally, it is necessary to consider one of the images of the doctor which is held by the American public and that is the image that is almost universal — that the doctor is a poor business man. Because of this image, *everybody, but everybody* is ready and willing, and I might say feels fully qualified to advise the doctor on his business problems.

Not only does this include everybody who wants to sell the doctor something, from life insurance to all the new office machines and gadgets, on to burnt matches and gold mines; but anyone else whose income is not dependent upon and whose reputation doe not stand or fall solely upon the service he renders to the doctor and NOT the profit or commission he makes on a sale to the doctor.

The test is strictly one of measuring payment of the fee. Unless the adviser is solely dependent upon the results he furnishes to the doctor in the services of management, then the obvious confliet of interest furnishes the answer.

CONCLUSION

In closing I would offer this word of caution. Don't rush home and fire the office girl to replace her with someone more "efficient" or "cheaper." And don't go home all fired up to bring about "efficiency" in the office – or don't try to arbitrarily slash all expenditures 10% just to solve your problem – assuming that you feel that you have one.

Many times cutting costs is the wrong approach entirely. I know of cases where the problem is strictly one of the doctor being a pinch-penny who counts the pennies and never misses the dollars.

By the same token don't get all fired up to buy a new bookkeeping machine, dictating machine or some other fancy gadget, or remodel the office. You could waste an awful lot of money without any good result. It's possible that a good management consultant might recommend that you don't need any of these things.

Basically there must be an overall study and an overall plan taking into consideration your own goals, capabilities and prospects of achieving them. Very sincerely and very frankly I have seen many professional management problems where the entire problem was the doctor himself. I assure you, that's usually the toughest one.

Finally – maybe you are now convinced that you have no problems and everything is working perfectly. I sincerely hope that such is the situation. However, I would remind you of the recent history making passenger airliner trip. After the airplane was airborne the loudspeaker announced that this was an historic flight in that it was the first passenger airliner flight with no crew at the controls. The loudspeaker assured the passengers that they need have no cause for alarm as their flight was being monitored from the ground by radio and radar. The last known words to come over the speaker were: "everything is working perfectly . . . working perfectly, working perfectly . . .

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THREE PHOENICIANS AWARDED UA MEDALLION OF MERIT

Three residents of Phoenix, including an archaeologist, a psychiatrist, and a surgeon, were awarded The University of Arizona's 75th Anniversary Medallion of Merit at a College of Liberal Arts luncheon in the UA Student Union Wednesday, Oct. 12.

The Medallion recipients are Odd S. Halseth, former city archaeologist of Phoenix; Dr. Samuel Wick, superintendent of Arizona State Hospital; and Dr. Dermont W. Melick, past president of the Maricopa County Medical Society and the Arizona Medical Association, and member of the Western Interstate Commission for Higher Education (WICHE). The medallions were presented by Dr. Richard A. Harvill, UA president.

In a citation presenting Halseth, Dr. Emil W. Haury, head of the UA anthropology department and director of the Arizona State Museum, said that as city archaeologist of Phoenix, "Halseth has dedicated his life to the preservation of the remains of ancient cultures in the Salt River Valley, and to the successful interpretation of these remains to a large and perceptive citizenry."

Educated in Norway and Germany, Halseth was formerly curator of art at the San Diego Museum of Man and curator of archaeology at

the Museum of New Mexico. He served as city archaeologist in Phoenix from 1929 to 1960.

The citation introducing Dr. Wick was read by Dr. Neil R. Bartlett, head of the department of philosophy and psychology, who said, "Since 1952 Dr. Wick has devoted his skills in psychiatry to the improvement of the Arizona State Hospital in Phoenix. He has upgraded patient care at that hospital, and with his vision he has pointed the road to the future in formulating plans for day-care centers and out-patient clinics. He has created a better understanding by the people of this state of the life problems faced by so many of its citizens. In this educational effort can be counted his wholehearted cooperation in helping to solve some University problems in research and in training professional specialists."



L. to r.: President Richard A. Harvill gave The University of Arizona's 75th Anniversary Medallion of Merit to Dr. Dermont W. Melick, Phoenix physician and past president of the Maricopa County Medical Society and the Arizona Medical Association and member of the Western Interstate Commission for Higher Education; Dr. Samuel Wick, superintendent of Arizona State Hospital; and Odd S. Halseth, former city archaeologist of Phoenix. The presentation to the Phoenix recipients took place at a luncheon in the UA Student Union on Oct. 12.

Dr. Melick was presented by Dr. Herbert D. Rhodes, dean of the Graduate College and executive secretary of WICHE. A 1931 graduate of The University of Arizona, Dr. Melick received the doctor of medicine, master of science, and doctor of science degrees at the University of Pennsylvania. He has been engaged in the practice of medicine and surgery in Phoenix since 1946. He is a member of the American College of Surgeons, the American Association for Thoracic Surgery, the American College of Chest Physicians, the Southwestern Surgical Congress, and the Western Surgical Association.

A past president of both the Maricopa County Medical Society and the Arizona Medical Association, Dr. Melick has been exceptionally active in medical education. He was one of Arizona's first commissioners of the Western Interstate Commission for Higher Education and still serves on that body, which aids Arizona residents in securing an education in medicine, dentistry, and veterinary medicine.

FELLOWS OF THE AMERICAN COLLEGE OF SURGEONS

Approximately 1,175 surgeons were inducted October 14 as new Fellows of the American College of Surgeons in ceremonies closing the annual five-day Clinical Congress in San Francisco.

Those receiving this distinction from the State of Arizona at the 1960 Convocation are:

Glendale
George E. Reynolds, Lt. Col., USAF
Mesa
George L. Hoffman
Sherman W. Thorpe
Phoenix
Morton S. Comess
Ray Fife
Howard W. Kimball
Robert E. Lorenzen
Hal W. Pittman
Monroe E. Shack
Adolph J. Urban
Tucson
Philip G. Dierickson

ARIZONA POISONING CONTROL INFORMATION CENTER

HAZARDS OF INTENTIONAL INHALATION OF PLASTIC CEMENT FUMES

The Arizona Poisoning Control Information Center at The University of Arizona College of Pharmacy recently received a number of disturbing reports regarding the intentional inhalation of plastic cement by teenagers in this state. For example, since July 1, 1960, the Phoenix Police Department recorded processing 11 juveniles who were under the influence of plastic cement vapor. The Police Department in Tucson has a record of 1 teenager who was involved in the inhalation of plastic cement fumes and who also admitted knowledge of several schoolmates who practiced this undesirable fad. A Tucson physician reported to this office that he was treating a young girl for the effects of plastic cement sniffing and indicated that he had information about almost a score of other youths who participated in this type of practice. Although it is impossible to determine the prevalence of this dangerous fad, the incidence of intentional inhalation of plastic cement vapor is, undoubtedly, great enough to be of grave concern to law enforcement officials and medical practitioners. In the area of law enforcement, for instance, a youth intoxicated by the fumes from plastic cement would be no less a menace behind the wheel of an automobile than if he were driving under the influence of alcohol.

The cases reported to the Arizona Poisoning Control Information Center have mainly involved the use of a plastic cement which contains toluene as the solvent. Toluene is an aromatic hydrocarbon compound and is chemically related to xylene and benzene. The inhalation of toluene (or its congeners) may result in a transient euphoria, in addition to other symptoms such as headache, giddiness, vertigo, ataxia, and tinnitus. It may also cause mild macroytic anemia. Although the lethal dose of inhaled toluene is unknown, the mean lethal dose of benzene is estimated to be about 15 ml (approximately ½ fluid ounce) by mouth. Confusion, stupefaction, and coma (accompanied by tremors, motor restlessness, hypertonus, jactitations and generally hyperactive reflexes) are the more severe symptoms of intoxication induced by aromatic hydrocarbon compounds. Since these solvents are potentially capable of sensitizing the heart to epinephrine, death may occur as the result of sudden ventricular fibrillation as well as from respiratory failure(1).

Although other organic solvents employed in various types of plastic cement may possess no greater acute toxicity than toluene, they may, nevertheless, be disabling. Many of these solvents, such as ethylene dichloride and methyl cellosolve, are capable of causing fatal liver and/or kidney damage.

In view of the potentially serious consequences of intentional inhalation of plastic cement fumes, the Arizona Poisoning Control Information Center urges that parents, physicians, law enforcement officials, educators, etc., inform all youths of the hazards of plastic cement vapors and discourage the abuse of plastic cement.

STATISTICS OF 82 POISONING CASES IN ARIZONA DURING SEPTMEBER 1960

AGE:

72.1%	involved under 5 year age group	(59)
4.8%	involved 6 to 15 year age group	(4)
6.0%	involved 16 to 30 year age group	(5)
11.0%	involved 31 to 45 year age group	(9)
3.7%	involved over 45 year age group	(3)
2.4%	were not reported	(2)

NATURE OF INCIDENT:

78.1%	accidental	(64)
19.5%	intentional	(16)
2.4%	were not reported	(2)

TIME OF DAY:

31.7%	occurred between 6 a.m. and noon	(26)
31.7%	occurred between noon and 6 p.m.	(26)
13.4%	occurred between 6 p.m. and midnight	(11)
1.2%	occurred between midnight and 6 a.m.	(1)
22.0%	were not reported	(18)

OUTCOME:

80%.5	recovery	(66)
0.0	fatal	(0.0)
19.5%	were not reported	(16)

CAUSATIVE AGENTS:

Internal Medicines	Number	Percent
Aspirin	16	18.6
Other Analgesics	0	0.0
Barbiturates	8	9.2
Antihistamines	3	3.5
Laxatives	1	1.2
Cough Medicine	0	0.0
Tranquilizers	4	4.7
Others	13	15.0
Subtotal	45	52.2
External Medicines		
Liniment	0	0.0
Antisecptics	0	0.0
Others	3	3.5
Subtotal	3	3.5
Household Preparations		
Soaps, Detergents, etc.	1	1.2
Disinfectants	1	1.2
Bleach	2	2.3
Lye, corrosives, drain cleaners	0	0.0
Furniture and floor polish	2	2.3
Subtotal	6	7.0
Petroleum Distillates		
Kerosene	2	2.3
Gasoline	2	2.3
Others	5	5.8
Subtotal	9	10.4
Cosmetics	1	1.2
Pesticides		
Insecticides	4	4.7
Rodenticides	0	0.0
Others	3	3.5
Subtotal	7	8.2
Paints, Varnishes, Solvents, etc.	4	4.7
Plants	5	5.8
Miscellaneous	4	4.7
Unspecified	2	2.3
TOTAL	86*	100.0

*The total number of causative agents exceeds the actual number of poisoning cases since in certain individual poisoning incidents more than one agent was involved.

1. Gleason, M. N., Gosselin, R. E., and Hodge, H. C., "Clinical Toxicology of Commercial Products," The Williams and Wilkins Co., Baltimore, 1957, pgs. 98, 182.

Willis R. Brewer, Ph. D.
Dean, College of Pharmacy
The University of Arizona, Tucson
Albert L. Picchioni, Ph.D.
Pharmacologist and Director
Arizona Poisoning Control Program
The University of Arizona, Tucson
Lincoln Chin, Ph.D.
Pharmacologist
The University of Arizona, Tucson

MEDICAL COURT CASES

by Howard Newcomb Morse
Counsellor at Law of the
Supreme Court of the
United States of America

Peddicord vs. Lieser
Supreme Court of Washington
105 P. 2d 5

William C. Peddicord, 19 years of age, was living in a house located on the United States Army reservation at Vancouver, Washington, where his father was a civilian employee. At about 11 a.m., Peddicord, who was then alone in the house, was endeavoring to repair a defective electric refrigerator, in which the chemical used as a refrigerant was sulphur dioxide. He had only a slight knowledge of how the refrigerator operated, and no knowledge of the kind of refrigerant contained therein.

In the course of his efforts to make the repair, he shook the refrigerator, and then, by means of a screwdriver, "removed the plate on the front of the machine where the ice cubes were and began to shake it some more." An explosion followed, as the result of which, the refrigerant was ejected with great force against his body in the region of the stomach. Covering his eyes with his hands, he immediately ran outdoors. In the front yard, he met his younger step-brother, of whom he requested that a physician be summoned at once.

The family physician was called by telephone, but he, being unable to come, suggested the name of Dr. Herbert Lieser, who was a physician and surgeon engaged in general practice. Dr. Lieser, in response to a telephone call, went immediately to Peddicord's home, arriving there within five or 10 minutes, or about 15 minutes after the accident had occurred. In the meantime, the step-brother had, at Peddicord's request, procured a pan of water and a cloth, and with these the latter fashioned a wet compress,

and applied it over his eyes. On the arrival of the physician, the patient was on his hands and knees, holding the wet bandage in plaee.

The patient later testified as follows as to what occurred during the physician's visit: "He (the physician) inquired as to what had happened, and, the best I could, I explained that the refrigerator had blown up, and that I believed that it contained ammonia, and asked him what I should do. He informed me that I should stay outside in the fresh air and sunlight for a couple of hours and I would be all right, as good as I ever was; that I was getting my just desserts for monkeying around that refrigerator. . . . He left (the physician had gone into the house to examine the refrigerator) and then he soon returned and informed me that he didn't think it was ammonia in the refrigerator, that he thought it was some other type of gas which he didn't express the name of, didn't seem to know exactly what. I asked him then if he would look at my eyes, and he made the remark that, what did he want to look at them for? He had seen hundreds of cases just like it and knew what they looked like and that if I would just do as he told me, stay outside in the fresh air and sunlight for a eouple of hours I would be all right, that it was just like a smoke burn, and with that I never heard him again."

The patient's testimony was corroborated by two witnesses, the step-brother and a neighbor who had appeared at the scene just shortly before the arrival of the physician. The step-brother, however, also testified that the physician's statement that "You are getting just what you deserve for fooling around" was in response to the information imparted to him by the patient and the witness, to the effect that the patient "was fooling with the refrigerator and it blew up." When asked whether the physician was joking or was serious in making the statement attributed to him, the witness said: "From those words, I believe that he was just kind of joking about it."

The physician testified that, upon his arrival at the place, and after inquiring as to the eause of the accident, he made partial examination of the patient's eyes, but was unable to make a thorough examination because to do so would have required certain instruments which he did not have.

During the time the physician was present, a period of 10 or 15 minutes, the patient made no complaint of pain, and, according to his own subsequent testimony, did not, during that period, experience any noticeable pain or discomfort other than a headache and a cough. The physician did not irrigate the patient's eyes, nor administer any other remedy or palliative to him.

Shortly after the physician had departed, the patient, who was then alone, began to experience pain in his eyes, and difficulty in breathing. He thereupon went into the house unattended, and telephoned to the army hospital for an ambulance. Within 15 or 20 minutes, the ambulance arrived, and the patient was taken to the hospital, where he was given immediate care. During the next 24 hours, fluids of one kind or another were constantly injected into his eyes; no opiates, however, were administered. When the patient left the hospital, the next day, he was unable to see anything, and from that time on was totally blind.

The patient brought an action in the Superior Court of Clark County, Washington, against the physician to recover damages for injuries resulting from alleged malpractiee. The court rendered judgment for the patient, and the physician appealed.

The Supreme Court of Washington reversed the decision of the court below and dismissed the case. The Supreme Court declared: "If, in this instance, the alleged failure to make an examination of respondent's eyes be considered as a failure to make any diagnosis at all, it still would not afford a right of aetion unless the treatment which followed was improper. An essential element of the right of action is improper treatment. . . . Viewing all the testimony in this case as a whole, the most that can be said on respondent's behalf is that there is a serious disagreement among qualified experts as to the advisability of putting water on eyes damaged by sulphurous acid. Under such circumstances, apellant cannot be held guilty of malpractiee because he did not pursue that course of treatment."

SOUTHWEST HEALTH-O-RAMA

A full scale, professionally produced Southwest HEALTH-O-RAMA, encompassing the many facets of the health field, has been announced by Robert R. Rinehart, chairman of the coming event.

Scheduled for February 16-21 inclusive, 1961, at popular Tower Plaza, Phoenix, Arizona, and presented under the sponsorship of the Phoenix Community Council — a non-profit organization — with the endorsement of the Maricopa County Medical Society — the 35,000 square foot plus show is expected to draw thousands of visitors from many parts of Arizona. This state resident attendance will be further enlarged because of the many tourists and winter residents who will be in Phoenix and adjacent places during the show dates.

Exhibits in Helath-O-Rama will be comprised of displays and demonstrations by member organizations of the Council, and by commercial firms whose products and/or services meet with the approval of the Health-O-Rama Executive Committee. All such participants and their presentations must be of the caliber necessary to maintain the high standard of ethics set by the sponsors and cooperating organizations. Exhibits must be attractively designed to assure visitor interest and to coincide with the over-all level of the producers.

Health educational programs, free medical tests of varied types, and demonstrations will be highlights of Health-O-Rama. Qualified speakers are being invited to appear on daily lecture programs. Motion pictures of an appropriate nature will also be shown. The nominal box office charge will include admission to these features.

The Health-O-Rama Executive Committee includes: Chairman, Robert R. Rinehart, Public Relations Director, Arizona Blue Cross & Blue Shield, Co-Chairman, William W. Wood, Executive Director, Arizona Heart Association; Committee Members — Mrs. Mary Anderson, Area Medical Consultant, U. S. Department H E W , George C. Bright, member Board of Directors, Community Council, Stanford F. Farnsworth, M.D., Director, Maricopa County Health Department, Richard O. Flynn, M.D., Maricopa County Medical Society, Milt Graham, President, Community Council, R. W. Russong, M.D., Maricopa County Medical Society, Elvin Sayre, Exeeutive Director, American Cancer Society, Arizona Division, Miss Cherry Tsutsumida, Director of Health Education, Arizona State Health Department. Ex-Officio — W. Albert Brewer, M.D., President, Maricopa County Medical Society, Milton Gan, Executive Director, Community Council.

Further information relative to Health-O-Rama may be obtained by contacting Health-O-Rama, P. O. Box 10054, Phoenix, Arizona.

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SCHOOL OF PRACTICAL NURSING

The S. H. Kress School of Practical Nursing, opened in September, 1957, at the Pima County Hospital, 2900 S. 6th Ave., Tucson, Ariz., prepares carefully selected, qualified applicants to give good nursing care to patients of all ages under the direction of a licensed physician or a registered professional nurse. Upon satisfactory completion of the course, the graduate is eligible for state licensing examination which qualifies her as a Licensed Practical Nurse.

The school is approved by the Arizona State Board of of Nurse Registration, the National Association for Practical Nurse Education and Service, and the Bureau of Indian Affairs. The cost of the course is approximately $170. Any woman interested in practical nursing who is between the ages of 18 and 50, a graduate of a high school or who completes a high school equivalency test, is a citizen of the United States and in good physical and mental health should contact the school for a brochure.

MEDICAL HISTORY OF WAR OFFERED

Many of the medical lessons learned during World War I had to be relearned under fire during World War II because of paucity of distribution of the World War I medical history.

Lieutenant General Leonard D. Heaton, The Army Surgeon General in an endeavor to prevent this costly relearning process, in the unhappy event of another war, has directed the preparation, publication, and distribution of the "History of the Medical Department, United States Army, in World War II." General Heaton is particularly anxious that information of the existence and availability of this history be circulated widely among the profession, both military and civilian.

Of the 48 volumes programmed for the series, 15 have been published and can be purchased at modest cost from The Superintendent of Documents, Government Printing Office, Washington 25, D. C. The set of 15 volumes may be purchased for $66.50 or individual volumes can be obtained at remarkably low prices. Commanding officers of medical units may requisition copies for their medical unit's libraries by submitting DA Form 17 directly to The Historical Unit. U. S. Army Medical Service, Washington 12, D. C.

Volumes now available are:

"General Surgery" — Edited by Michael E. DeBakey, M.D.

"Neurosurgery," Volume (Head Injuries) — Edited by R. Glen Spurling, M.D. and Barnes Woodhall, M.D.

"Neurosurgery," Volume II (Spinal Cord and Peripheral Nerve Injuries) — Edited by R. Glen Spurling, M.D. and Barnes Woodhall, M.D.

"Ophthalmology and Otolaryngology" — Edited By M. Elliott Randolph, M.D. and Norton Canfield, M.D.

"Orthopedic Surgery, European Theater of Operations" — Edited by Mather Cleveland, M.D.

"Orthopedic Surgery, Mediterranean Theater of Operations" — By Oscar P. Hampton, M.D.

"Physiologic Effects of Wounds" — Edited by Fred W. Rankin, M.D. and Michael E. DeBakey, M.D.

"Vascular Surgery" — Edited by Daniel C. Elkin, M.D. and Michael E. DeBakey, M.D.

"Cold Injury, Ground Type" — By Tom F. Whayne, M.D., and Michael E. DeBakey, M.D.

"Dental Service" — George F. Jeffcoat, D.M.D.

"Environmental Hygiene" — By James Stevens Simmons, M.D. and others.

"Personal Health Measures and Immunization" — By John E. Gorden, M.D., Tom F. Whayne, M.D. and others.

"Communicable Diseases," Volume IV — By John E. Gordon, M.D., Joseph Stokes, M.D. and others.

"Hospitalization and Evacuation, Zone of Interior" — By Clarence McKittrick Smith.

Give the MERRIEST CHRISTMAS gift of all!

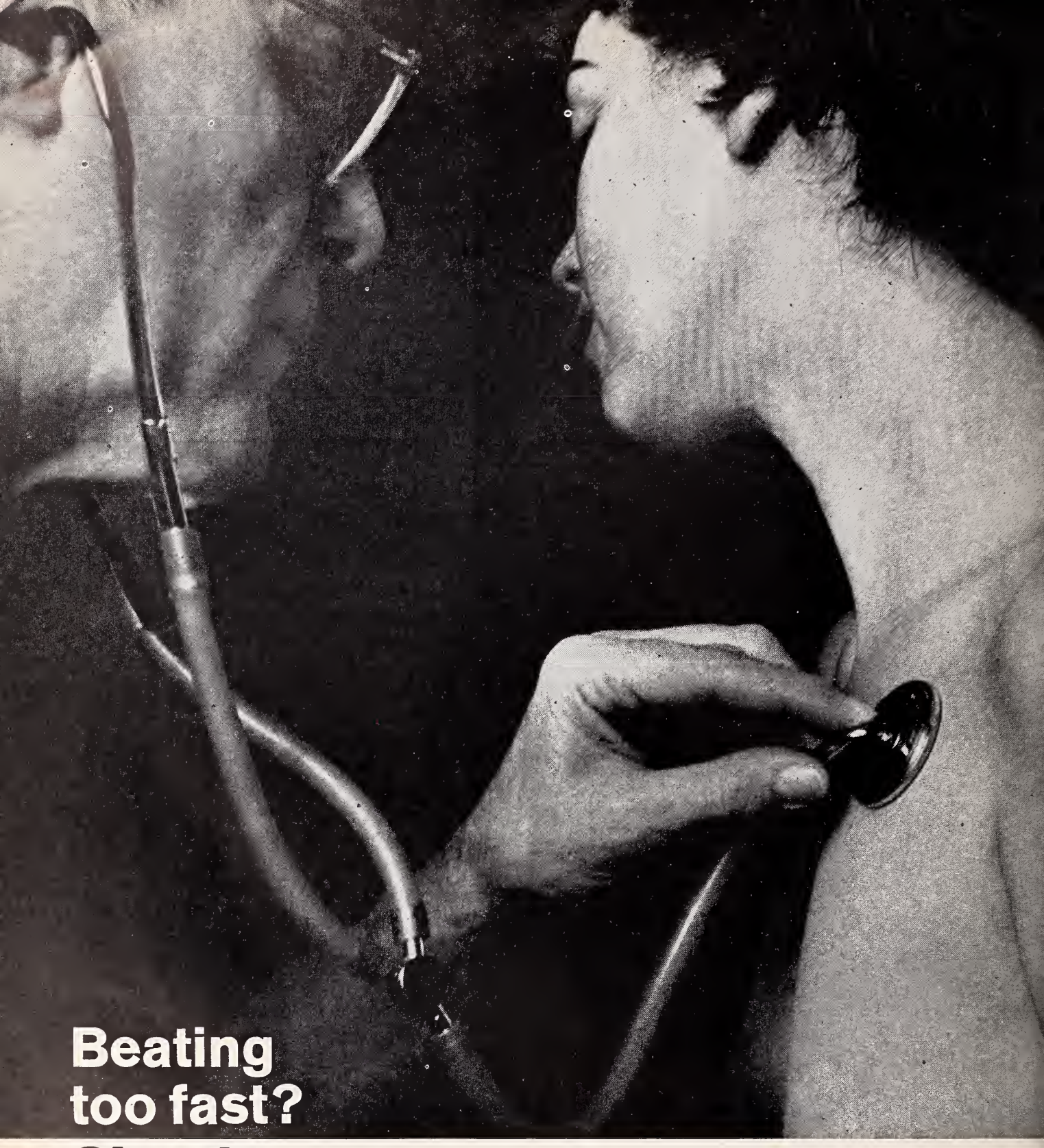


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One year subscription, $3.50 in the United States and Possessions; $4.50 elsewhere. Send subscription orders to 1739 W. Jackson, Phoenix, Arizona.



Beating too fast? Slow it down with SERPASIL®

(reserpine CIBA)

Serpasil has proved effective as a heart-slowing agent in the following conditions: mitral disease; myocardial infarction; cardiac arrhythmias; neurocirculatory asthenia; thyroid toxicosis; excitement and effort syndromes; cardiac neurosis; congestive failure. Serpasil should be used with caution in patients receiving digitalis and quinidine. It is not indicated in cases of aortic insufficiency.

SUPPLIED: Tablets, 0.1 mg., 0.25 mg. (scored) and 1 mg. (scored). Complete information available on request.

CIBA

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Reprints

Retirement Program For Doctors' Employees

The first medical association in the country to establish a retirement program for all doctors' employees is the Riverside County Medical Association, whose physicians realized a definite need to provide adequate security for career employees in medicine.

According to RCMA executive secretary, Herbert O. Brayer, the purpose of the plan is to promote medicine as a lifetime career "not just for the M.D. and R.N., but for those all important receptionists, bookkeepers, lab-technicians, practical nurses, medical secretaries and others who now are essential to the successful practice of medicine."

The program is open to every full-time employee of the 257 physician members of the Riverside County Medical Association, or of the Association itself, who has completed 12 consecutive months of employment, working at least 20 hours per week. Payroll deductions for each participating employee amount to 3 per cent of gross earnings. The physician employer will match the contributions made by his employees, contributing 3 per cent of their earnings.

From *The PR Doctor*, Oct. 1960
(Issued by Communications Division,
American Medical Association)

THE GOOD OLD DAYS

The following is an extract from the "Medical Record" of February 29, 1896. Although the overtones are tragic, some of the comments regarding the medical advice of the "Weeder's Digest" or "Dime Magazine" are daily occurrences in our time. And do we not concern ourselves constantly with the question of hospitals practicing medicine? Only the side of the Women's Auxiliary appears to have improved with time.

A.J.B.

"Starvation Among Paris Physicians — We learn from the Paris correspondent of the *British Medical Journal* that Dr. Langlard, after fifty years of honorable practice, found no other way of escaping starvation than suicide. It is esti-

mated that there are twenty-five hundred medical men battling with starvation, borne down by heavy rent and taxes. Year by year the number of medical men increases, while, owing to the progress of hygienic science and still more to the disastrous competition of the hospital outpatient rooms and private gratuitous clinics, the number of patients decreases. It is the doctors themselves, says M. Lataud, who have created their own misfortunes. They have taught lady patronesses of different societies to diagnose disease, to dress and bandage wounds, to vaccinate their own children and those of their neighbors. Medical science is vulgarized in every way. Doctors write in important daily papers explaining how bronchitis and cramps of the stomach are to be cured, and in fashion journals they teach how to cure pimples and avert headaches. Furthermore, they have urged that hospital treatment be paid at the rate of 4*s.* 2*d.* per day; the middle classes profit by this tariff to become hospital patients, their conscience at ease since they pay. Five hundred thousand gratuitous consultations are given yearly in Paris dispensaries, and in this way a large amount of fees is diverted from the medical profession. M. Lutaud includes in his indictment the Association des Dames, more or less patriotic, which sends forth thousands of women who, because they have attended a few medical lectures and walked the hospitals for a few weeks, believe themselves to be something very like doctors and treat their families and friends. This school of medical half-knowledge has been created and kept going by medical men, who are now being crushed by the work of their own hands."

(From the "Medical Record," February 29, 1896)

LABEL WITH NAME OF DRUG

Editor,
American Journal of Opthalmology:

The addition of the above five words to every prescription will benefit both you and the patient. Mystery as to the nature of medications is an unwarranted and obsolete tradition. The following advantages accrue from labeled prescriptions:

1. If the patient is taking more than one medication, a change in instructions concerning one is less likely to result in confusion. (Which bottles do I stop using, Doc?)

2. When one of multiple prescription is exhausted, it can be identified for refilling. (Doc, the round bottle is empty.)

3. Several doctors caring for the same patient can more easily co-ordinate treatment. (Why are you giving me Diamox for my eyes when the heart doctor uses it for my edema?)

4. A consultant or new physician need not change or discard perfectly adequate, but unknown, medications. This is a very common unnecessary expense to patients.

5. In case of emergency, the nature of the patient's medications can more rapidly be determined.

6. Medications to which there is a known allergy are less likely to be given without the patient's recognition.

7. Re-use of remaining medication later in the course of the disease or by another member of the family becomes possible upon your advice.

8. Economy, in these days of high drug costs, is achieved for the various reasons already given.

9. Dispensing errors may more readily be detected. (And they happen!)

A great deal of confusion could be avoided if prescriptions were clearly identified. Certainly in matters as important as human health there is no room for uncertainty.

(Signed) William H. Havener,
Columbus, Ohio

(From the American Journal of Ophthalmology, Volume 49, Number 4, April 1960, reprinted by permission.

Kalamazoo Medical and Surgical Fee List

Adopted July 18, 1907

Out-of-Office Attendance.

General Medicine.

VISITS IN CITY—7 A. M. to 8 P. M.	$ 1.50—	3.00
VISITS IN CITY—8 P. M. to 7 A. M.	2.00—	5.00
VISITS DURING OFFICE HOURS	2.00—	5.00
For each additional member of family during a visit	.50—	1.00
VISITS IN COUNTRY. Extra per mile	.50—	1.00
VISITS OUT OF TOWN, (absence not to exceed half a day)	15.00—	50.00
VISITS IN CASES OF DANGEROUS CONTAGIOUS DISEASES	2.00—	10.00
VISITS IN CASES OF POISONING	5.00—	25.00

Office Attendance.

General Medicine.

OFFICE CONSULTATION	$ 1.00—	5.00
PHYSICAL EXAMINATION	1.00—	10.00
CHEMICAL OR MICROSCOPICAL EXAMINATION (Urine, blood, sputum, stomach contents, etc.)	1.00—	15.00
OFFICE TREATMENT	1.00—	10.00
TELEPHONE CONSULTATION	.50—	1.00

Surgery.

MINOR OPERATIONS (ASSISTANCE EXTRA)	$ 3.00—	15.00
Administration of anesthetic	5.00—	25.00
Operative assistant	1.50—	5.00
OFFICE TREATMENT	1.00—	10.00

Venereal Diseases.

DOUBLE ORDINARY FEES.
Retainer required in advance.

Gynecology.

LOCAL EXAMINATION	$ 2.00—	10.00
LOCAL TREATMENT	2.00—	5.00

Out-of-Office Attendance.

Gynecology.

LOCAL EXAMINATION	$ 3.00—	15.00
LOCAL TREATMENT	2.00—	5.00
OPERATIONS.		
Irritable caruncle	5.00—	25.00
Vulvo-vaginal abscess	5.00—	25.00
Imperforate hymen	5.00—	25.00
Stricture of vagina	25.00—	100.00
Vaginal fistulae	25.00—	100.00
Colporrhaphy	25.00—	50.00
Perineorrhaphy	25.00—	75.00
Trachelorrhaphy	20.00—	75.00
Dilatation of cervical canal	5.00—	15.00
Curettement	10.00—	25.00
Amputation of cervix	25.00—	75.00
Ovariotomy	100.00—	500.00
Ovarian tumors	100.00—	500.00
Oophorectomy	100.00—	500.00
Extra-uterine pregnacy	100.00—	500.00
Hematocele	100.00—	500.00
Hysterectomy	100.00—	500.00
Uterine tumors	100.00—	500.00
Intra-uterine tumors	10.00—	50.00
DISPLACEMENTS.		
Correction of versions	2.00—	10.00
Correction of flexions	2.00—	10.00
Correction of prolapsus	2.00—	10.00
Fitting pessary	2.00—	10.00
Alexander's operation	50.00—	100.00
Ventro-fixation or suspension	100.00—	200.00

Obstetrics.

ORDINARY DELIVERY	15.00—	25.00
ALL VISITS EXTRA.		
DELIVERY BY FORCEPS, EXTRA	5.00—	25.00
DELIVERY BY OPERATION	50.00—	300.00
DELIVERY OF TWINS	20.00 upward	
DELIVERY OF PLACENTA ONLY	5.00—	25.00
PREMATURE DELIVERY, (Assistance Extra)	15.00—	50.00
PRIMARY PERINEORRHAPHY, Extra	5.00—	25.00
TREATMENT OF MISCARRIAGE	25.00—	75.00

Medico-Legal Cases.

EXPERT TESTIMONY	$ 25.00 upward	
EXPERT INVESTIGATIONS (If taken from practice over half a day, $25.00—100.00 a day and expenses.)	25.00 upward	
POST-MORTEM EXAMINATION	25.00—	100.00

Consultations.

IN GENERAL MEDICINE CASES	5.00—	25.00
IN SURGICAL CASES	5.00—	25.00
IN GYNECOLOGICAL CASES	5.00—	25.00
IN OBSTETRICAL CASES	5.00—	25.00
IN OUT-OF-TOWN CASES	15.00—	100.00

General Surgery.

LIGATIONS.

Main arteries	$ 25.00—	100.00
Branches	5.00—	25.00

RESECTIONS.

Varicose veins	5.00—	100.00
Varicocele	25.00—	75.00
Diseased bone	10.00—	200.00
Joints, digits	10.00—	25.00
Joints, limbs	50.00—	200.00
Trephining skull	100.00—	500.00
Nerve trunks	50.00—	200.00
Gasserian ganglion	100.00—	500.00
Intestine	100.00—	500.00

AMPUTATION.

Digits	10.00—	25.00
Hand or foot	50.00—	100.00
Knee or elbow (at or below)	50.00—	100.00
Arm or thigh	50.00—	100.00
At shoulder	75.00—	150.00
At hip	100.00—	200.00
Breast	50.00—	200.00

EXTIRPATIONS.

Tumors, superficial	5.00—	50.00
Tumors, deep-seated, (not abdominal)	50.00—	100.00
Organs, uvula	3.00—	5.00
Organs, kidney	100.00—	300.00
Organs, testicle	50.00—	100.00
Organs, prostate	100.00—	500.00
Foreign bodies.		
Gallstones	100.00—	500.00
Urinary calculus, cystic	50.00—	150.00
Renal, calculus	100.00—	500.00

EVACUATION.
(By aspiration or incision.)

Pleural cavity	10.00—	50.00
Pericardial sac	50.00—	200.00
Peritoneal cavity	10.00—	100.00
Abscess cavities	5.00—	50.00
Joints	10.00—	50.00
Cystic tumors	5.00—	50.00
Bladder	5.00—	50.00
Hydrocele	3.00—	50.00

REDUCTION OF FRACTURES.

Skull	$ 25.00—	100.00
Nose	5.00—	25.00
Maxilla	10.00—	100.00
Clavicle	10.00—	25.00
Scapula	15.00—	25.00
Rib	5.00—	10.00
Humerus	25.00—	100.00
Radius or ulna	10.00—	30.00
Hand	5.00—	20.00
Pelvis	25.00—	50.00
Femur	25.00—	100.00
Tibia	25.00—	50.00
Fibula	10.00—	25.00
Foot	10.00—	25.00
Separation of epiphysis	10.00—	20.00
Fracture with dislocation, extra	5.00—	10.00
Fracture into a joint, extra	5.00—	10.00
Double fracture, extra	5.00—	10.00
Comminuted fracture, extra	10.00—	15.00
Compound fracture, extra	10.00—	50.00

REDUCTION OF DISLOCATIONS.

Of maxilla	10.00—	20.00
At shoulder	10.00—	25.00
At elbow	10.00—	30.00
At wrist	5.00—	15.00
Of phalanges	2.00—	5.00
At ankle	10.00—	25.00
At knee	25.00—	200.00
At hip	25.00—	200.00

ORTHOPEDIC SURGERY.

Plaster dressing, limbs	5.00—	20.00
Plaster dressing, trunk	10.00—	50.00
Genu varum	10.00—	50.00
Genu valgum	10.00—	50.00
Talipes (club foot)	10.00—	50.00
Pes cavus (hollow foot)	5.00—	25.00
Pes planus (flat foot)	5.00—	25.00
Hallux valgus	10.00—	20.00
Hammer toe or finger	5.00—	25.00

Surgery of Special Regions.

SKIN, (PLASTIC SURGERY)

Skin-grafting	$ 25.00—	500.00
Hare-lip, single	25.00—	50.00
Hare-lip, double	25.00—	100.00
Rhinoplasty	50.00—	100.00
Circumcision	10.00—	20.00
Phimosis or paraphimosis	2.00—	10.00

ABDOMEN.

Appendicitis	100.00—	500.00
Abdominal section, (cellotomy or laparatomy)	100.00—	500.00
Hernia.		
Fitting truss	3.00—	5.00
Reduction of strangulated hernia		
By taxis	10.00—	25.00
By operation	100.00—	500.00
Radical cure	100.00—	500.00

RECTUM

Examination	3.00—	10.00
Hemorrhoids, external	3.00—	15.00
Hemorrhoids, internal	15.00—	100.00
Fistula in ano	15.00—	50.00
Fissure	5.00—	25.00
Stricture of rectum	25.00—	100.00
Dilatation of sphincter	5.00—	10.00
Ischio-recial abscess	10.00—	50.00

EYE, EAR, NOSE AND THROAT.

OFFICE CONSULTATION	$ 1.50—	10.00
OUTSIDE CALLS	2.00—	10.00
OUT OF CITY VISITS	half day $25.00; whole day $50.00	

EYE EXAMINATIONS AND OPERATIONS.

Refraction	5.00—	10.00
Iridectomy	50.00—	100.00
Cataracts	100.00—	200.00
Enucleation of globe	75.00—	150.00
Tenotomy of recti muscles	50.00—	100.00
Advancement of recti muscles	75.00—	150.00
Operations on lids	5.00—	50.00
Removal foreign bodies	10.00—	50.00

EAR EXAMINATIONS AND OPERATIONS.

Complete examination	5.00—	10.00
Paracentesis of ear drum	5.00—	15.00
Mastoid, simple	100.00—	150.00
Mastoid, radical	150.00—	200.00

NOSE AND THROAT EXAMINATIONS AND OPERATIONS.

Complete examination	2.00—	5.00
Adenoids	25.00—	50.00
Tonsil, enucleation	50.00—	100.00
Tonsilotomy	10.00—	25.00
Tracheotomy	50.00—	100.00
Intubation	50.00—	100.00

Surgical Assistance Extra.

ADMINISTRATION OF ANESTHETIC	$ 5.00—	25.00
OPERATIVE ASSISTANT	5.00—	25.00

Insurance Examinations.

Fraternal and Industrial	$ 1.00—	3.00
Old line	5.00—	15.00

After Treatment not included in above prices.

Future Medical Meetings and Postgraduate Education

9TH ANNUAL CANCER SEMINAR
of the Arizona Division
American Cancer Society

January 12, 13 & 14, 1961
Tidelands Motor Inn — Tucson

"Changing Concepts in Tumor Formation and Therapy"

Tentative Program

Thursday, January 12

9:00 A.M.	Greetings — Dr. Lindsay E. Beaton, President, The Arizona Medical Association
9:15 A.M.	*Some Metabolic Approches to Cancer Chemotherapy — Part I* Arnold D. Welch, Ph.D., M.D.
9:45 A.M.	*Immunology as It Relates to Cancer: Theoretical Aspects* Chester M. Southam, M.D.
10:30 A.M.	Break
	The Polyoma Story Arthur W. Ham, M.B.
11:15 A.M.	*Diagnostic and Therapeutic Studies on Cancer of the Adrenal* Roy Hertz, M.D.
12:00 Noon	Luncheon and Round Table
2:00 P.M.	*The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors* Jeanne C. Bateman, M.D.
2:30 P.M.	*Laboratory Studies in Cancer Chemotherapy with Fluorinated Pyrimidines* Charles Heidelberger, Ph.D.
3:00 P.M.	Break
3:15 P.M.	*Correlation of the Roentgenologic and Pathologic Findings in the Various Types of Primary Bone Tumors* C. Howard Hatcher, M.D.
3:45 P.M.	Question and Answer Session

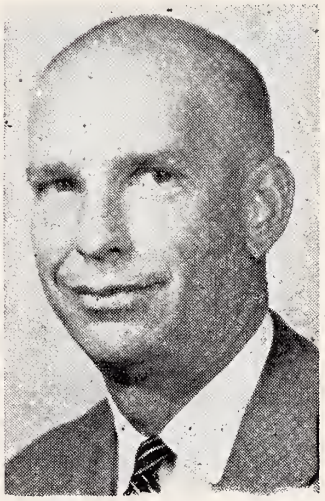
Friday, January 13

9:15 A.M.	*Assessment of Environmental Agents in the Pathogenesis of Lung Cancer* Paul Kotin, M.D.
9:45 A.M.	*Indirect Mechanisms in Carcinogenesis* Henry S. Kaplan, M.D.
10:15 A.M.	Break
10:30 A.M.	*Some Metabolic Approaches to Cancer Chemotherapy — Part II* Arnold D. Welch, Ph.D., M.D.
11:15 A.M.	*Chemotherapy of Choriocarcinoma and Related Trophoblastic Tumors* Roy Hertz, M.D.
12:00 Noon	Luncheon
1:30 P.M.	*The Treatment of Bone Sarcomas in Selected Patients by Regional Resection* C. Howard Hatcher, M.D.
2:00 P.M.	*The Treatment of Advanced Metastatic Tumors* Jeanne C. Bateman, M.D.
2:30 P.M.	
2:45-4:00 P.M.	Panel: *Care of the Patient with Advanced Malignant Disease*

Jeanne C. Bateman, M.D. — Henry S. Kaplan, M.D.
C. Howard Hatcher, M.D. — Harold W. Kohl, M.D.
Roy Hertz, Ph.D., M.D. — Charles P. Neumann, M.D.

Saturday, January 14

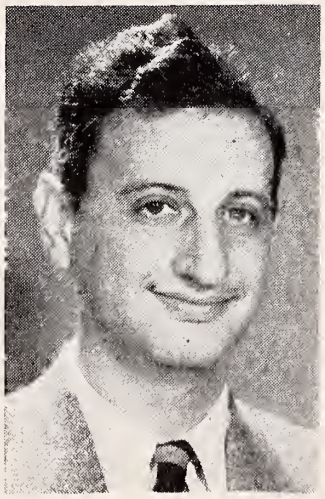
9:15 A.M.	*Clinical Pharmacology Studies with Fluorinated Pyrimidines* Charles Heidelberger, Ph.D.
9:45 A.M.	*Immunology as it Relates to Cancer: Clinical Applications — Past-Attempts and Future Possibilities* Chester M. Southam, M.D.
10:15 A.M.	Break
10:30 A.M.	*Host Factors in Relation to the Action of Environmental Carcinogenic Agents* Paul Kotin, M.D.
11:00 A.M.	*Chemical Modification of Radiosensitivity* Henry S. Kaplan, M.D.
11:30 A.M.	*Possible Tumor Viruses in Man* Arthur W. Ham, M.B.



CHESTER SOUTHAM, M.D.

M.D. College of Physicians and Surgeons, Columbia University 1947; associate professor of Medicine, Cornell University Medical College; attending physician to the Department of Medicine, Memorial Center.

Associate member of Sloan-Kettering Institute. Author and co-author of more than 55 publications related to research in the field of virology.



CHARLES HEIDELBERGER, Ph.D.

Ph.D. Organic Chemistry, Harvard 1946; co-authored the text, *Isotopic Carbon;* in 1948 joined the staff of the McArdle Memorial Laboratory of the University of Wisconsin; now holds the rank of Professor there.

In 1958 received the Teplitz Memorial Award in Cancer Research; serves as consultant in cancer chemotherapy to the National Service Center, National Institutes of Health, also chairman of its Bio-chemistry Committee; program chairman for both 1959 and 1960 for the American Association for Cancer Research. Has received one of the eight life-time professorships sponsored by the American Cancer Society. His research has dealt primarily with the mechanisms of chemical carcinogenesis and cancer chemotherapy; currently is writing a book in collaboration with Dr. Paul Kotin on carcinogenesis.



JEANNE C. BATEMAN, M.D.

Graduate George Washington University School of Medicine, Washington, D. C. 1942, cum laude; attending in Surgery in Oncology, Washington Hospital Center, Washington, D. C.

Consultant in Oncology and attending in Medicine, Prince George's Hospital; consultant in Oncology, Glenn Dale Sanitarium; consultant in Oncology, St. Elizabeth's Hospital; consultant to the Armed Forces Medical Library and to

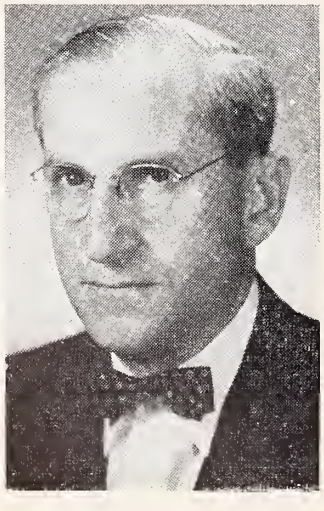
the National Cancer Institute; clinical instructor in Medicine, George Washington University School of Medicine. Author of more than 46 publications, most of which are related to chemotherapy of malignant growths.



PAUL KOTIN, M.D.

M.D. University of Illinois 1940; Paul Pierce Professor of Pathology, University of Southern California School of Medicine.

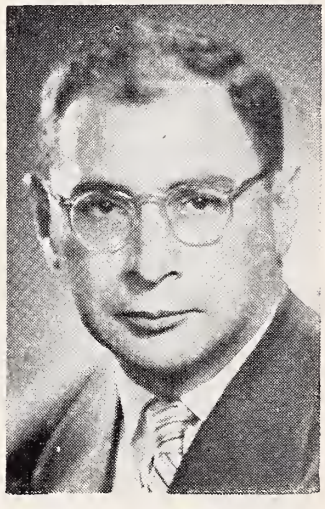
Diplomate American Board of Pathology; chairman, Interdepartmental Cancer Research Committee, USC; member, Committee for Research on Factors in Carcinogenesis, International Union Against Cancer; chairman, Subcommittee for the Role of Chemical Carcinogenic Agents Present in Air Pollution; special consultant to the Scientific Advisory Board of the Tobacco Industry Research Committee.



ROY HERTZ, M.D.

Ph.D. Physiology, University of Wisconsin 1933; M.D. University of Wisconsin 1939. Association in Endocrinology, Warwick Memorial Clinic for Cancer and Allied Diseases, consultant in Endocrinology at the same institute; attending physician at the General Hospital, Washington, D. C.; assistant clinical professor of Medicine, George Washington University Medical School; member, editorial board of the journal, *Endocrinology.*

Chairman of panel on Endocrinology and member of Executive Committee on Growth, National Research Council; chairman, Advisory Committee on Therapy, American Cancer Society. Chief, Endocrinology Branch, National Cancer Institute; member, editorial board, Society for Experimental Biology in Medicine. In 1957 received the Anne Frankel Rosenthal Memorial Award for Cancer Research. In conjunction with others is author of more than 99 publications, most of them relating to problems in Endocrinology.



HENRY S. KAPLAN, M.D.

Professor of Radiology, Executive Head of the Department of Radiology and Director of the Biophysics Laboratory School of Medicine, Stanford University.

M. D. Rush Medical College, University of Chicago 1940; member, Radiation Study Section, National Institute of Health; member, Physical Biology Training Grant Committee, National Institutes of Health; member of panel on Pathologic Effects of Atomic Radiation, National Academy of Sciences, National Research Council; member, Commission on Research, International Union Against Cancer; member, Research Advisory Council, American Cancer Society; member, National Advisory Cancer Council, United States Public Health Service.

ARIZONA HEART ASSOCIATION FOURTH ANNUAL CARDIAC SYMPOSIUM

January 27 and 28, 1961
ARIZONA BILTMORE HOTEL
Phoenix, Arizona

FRIDAY, JANUARY 27, 1961

8:00 - 9:00	Registration — Lobby Entrance
9:00	Greeting by Dr. William A. Butcher, Tucson, President — Arizona Heart Association.
9:15 - 10:00	Middle Age Fitness — Dr. Paul Dudley White, Boston.
10:00 - 10:45	The Treatment of Acute Cardiac Arrhythmias, Dr. E. Grey Dimond, La Jolla, California.
10:45 - 11:00	Intermission — Visit Exhibits.
11:00 - 11:45	Clinical Diagnosis of Congenital Heart Disease in the Adult — Dr. W. Proctor Harvey, Washington, D. C.
12:30 - 2:00	Luncheon at the Poolside.
2:00 - 2:45	Methods Available for Repair of Intracardiac Defects — Dr. Robert E. Gross, Boston.
2:45 - 3:30	The Role of Phonocardiography in Office Practice — Dr. E. Gray Dimond, La Jolla, California.
3:30 - 3:45	Intermission.
3:45 - 4:30	Panel Discussion of Current Cardiovascular Problems — Dr. James E. O'Hare and Dr. Leslie B. Smith, Moderators.

SATURDAY, JANUARY 28, 1961

8:30 - 9:30	Registration continued — Lobby.
9:30	Greeting by Dr. W. Shaw McDaniel, President-elect — Arizona Heart Association.
9:45 - 10:30	The Correction of Septal Defects — Dr. Robert E. Gross, Boston.
10:30 - 10:45	Intermission.
10:45 - 11:30	A Review of the Physiology and Diagnosis of Congenital Heart Disease in the Selection of Patients for Surgery — Dr. E. Grey Dimond, La Jolla, California.
12:00 - 2:00	Luncheon.
2:00 - 2:45	The Candidate for Cardiovascular Disease — Dr. Paul Dudley White, Boston.
2:45 - 3:30	Bacterial Endocarditis following Dental Procedures of Cleaning and/or Filling of Teeth — Dr. W. Proctor Harvey, Washington, D. C.
3:30 - 3:45	Intermission.
3:45 - 4:30	Panel Discussion of Current Cardiovascular Problems — Dr. Donald K. Buffmire and Dr. Andre J. Bruwer, Moderators.

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THE ARIZONA MEDICAL ASSOCIATION 70TH ANNUAL MEETING

Safari Hotel, Scottsdale, Arizona
April 25 through 29, 1961

FACULTY

Herb Adams, M.D.
Associate Professor of Radiology
Stanford University School of Medicine
Palo Verde, California

Evan Calkins, M.D.
Director, Robert W. Lovett Memorial Unit
Massachusetts General Hospital
Boston, Massachusetts

Mahlon Delp, M.D.
Chairman, Department of Medicine
University of Kansas Medical Center
Kansas City, Kansas

Victor A. Drill, M.D.
Director of Biological Research
G. D. Searle and Company
Chicago, Illinois

Corwin Hinshaw, Sr., M.D.
Professor of Medicine
Stanford University School of Medicine
San Francisco, California
Robert T. Manning, M.D.
Associate in Medicine
University of Kansas Medical Center
Kansas City, Kansas
John H. Mulholland, M.D.
Professor of Surgery
University of New York College of Medicine
New York, New York
John Rebuck, M.D., Ph.D.
Hematology
Henry Ford Hospital
Detroit, Michigan

PHOENIX SURGICAL SOCIETY

The following scientific meetings of the Phoenix Surgical Society have been arranged for the coming year. They will be held, except the last meeting at Casa Blanca Inn, Scottsdale, Arizona on the dates listed below. The place and subject of the fourth meeting will be announced later. All physicians and surgeons are cordially invited to the dinner and cocktails preceding these lectures. Dinner to be approximately $5.50 per plate, payable at door. Please send reservations, not later than a week in advance of each meeting to Secretary, Phoenix Surgical Society, Dr. W. H. Cleveland, 1313 N. 2nd St., Phoenix, Arizona. All interested in attending the leeture and not the dinner will be welcome free of charge, reservation not necessary. Dinner 6:30 P.M. Lecture 8:00 P.M.

Thursday, December 15, 196 — Casa Blanca Inn, Scottsdale, Arizona

Speaker: Dr. Owen H. Wagensteen — President American College of Surgeons 1960; Chairman Dept. of Surgery and Prof. of Surgery University of Minnesota, Minneapolis, Minnesota.

Subject: "Extended Operations on the Intestinal Tract."

Tuesday, February 14, 1961 — Casa Blanca Inn, Scottsdale, Arizona

Speaker: Dr. Richard B. Cattell, Chief of Surgery, Lahey Clinic, Boston, Massachusetts.

Subject: "Surgery of the Biliary Tract."

Tuesday, April 11, 1961 — Casa Blanca Inn, Scottsdale, Arizona

Speaker: Dr. William D. Longmire, Jr. Professor of Surgery University of California, Los Angeles).

Subject: "Surgery of Thyroids and/or Parathyroids."

Tuesday, May 9, 1961 — Place to be announced later.

Speaker: Dr. Isidor S. Ravdin, President American College of Surgeons, 1961, John Rhea Barton Professor of Surgery University of Pennsylvania.

Subject: To be announced later.

AMERICAN COLLEGE OF SURGEONS MEETING IN MEXICO CITY JANUARY 23 THROUGH 26, 1961

Developments in surgical techniques will be discussed by leading surgeons of Mexico, Canada and the United States at the first meeting of the American College of Surgeons to be held in Mexico.

For detailed information, write to: Dr. William E. Adams, Secretary, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.



A NEW THERAPEUTIC ENTITY FOR DIARRHEA

LOMOTIL®

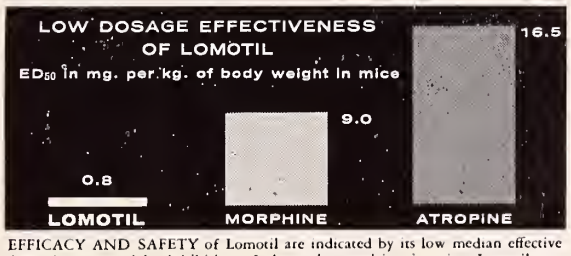
SELECTIVELY LOWERS PROPULSIVE MOTILITY

LOMOTIL represents a major advance over the opium derivatives in controlling the propulsive hypermotility occurring in diarrhea.

Precise quantitative pharmacologic studies demonstrate that Lomotil controls intestinal propulsion in approximately 1/11 the dosage of morphine and 1/20 the dosage of atropine and that therapeutic doses of Lomotil produce few or none of the diffuse untoward effects of these agents.

Clinical experience in 1,314 patients amply supports these findings. Even in such a severe test of antidiarrheal effectiveness as the colonic hyperactivity in patients with colectomy, Lomotil is effective in significantly slowing the fecal stream.

Whenever a paregoric-like action is indicated, Lomotil now offers positive antidiarrheal control ... with safety and greater convenience. In addition, as a nonrefillable prescription product, Lomotil offers the physician full control of his patients' medication.



EFFICACY AND SAFETY of Lomotil are indicated by its low median effective dose. As measured by inhibition of charcoal propulsion in mice, Lomotil was effective in about 1/11 the dosage of morphine hydrochloride and in about 1/20 the dosage of atropine sulfate.

PRECAUTION: While it is necessary to classify Lomotil as a narcotic, no instance of addiction has been encountered in patients taking therapeutic doses. The abuse liability of Lomotil is comparable with that of codeine. Patients have taken therapeutic doses of Lomotil daily for as long as 300 days without showing withdrawal symptoms, even when challenged with nalorphine.

Recommended dosages should not be exceeded.

DOSAGE: The recommended initial dosage for adults is two tablets (5 mg.) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. (1/2400 gr.) of atropine sulfate to discourage deliberate overdosage.

Subject to Federal Narcotic Law.

Descriptive literature and directions for use available in Physicians' New Product Brochure No. 81 from

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Trancoprin®

acetylsalicylic acid (300 mg.) and chlormezanone (50 mg.)

Tablets



a broad spectrum non-narcotic analgesic

Trancoprin, a new analgesic, not only raises the pain perception threshold but, through its chlormezanone component, also relaxes skeletal muscle spasm[1-6] and quiets the psyche.[2,3-5,7]

The effectiveness of Trancoprin has been demonstrated clinically[8] in a number of patients with a wide variety of painful disorders ranging from headache, dysmenorrhea and lumbago to arthritis and sciatica. In a series of 862 patients,[8] Trancoprin brought excellent or good relief of pain to 88 per cent of the group. In another series,[9] Trancoprin was administered in an industrial dispensary to 61 patients with headache, bursitis, neuritis or arthritis. The excellent results obtained prompted the prediction that Trancoprin "...will prove a valuable and safe drug for the industrial physician."[9]

Exceptionally Safe

No serious side effects have been encountered with Trancoprin. Of 923 patients treated with Trancoprin, only 22 (2.4 per cent) experienced any side effects.[8,9] In every instance, these reactions, which included temporary gastric distress, weakness or sedation, were mild and easily reversed.

Indications

Trancoprin is recommended for more comprehensive control of the pain complex (pain → tension → spasm) in those disorders in which tension and spasm are complicating factors, such as: headaches, including tension headaches / premenstrual tension and dysmenorrhea / low back pain, sciatica, lumbago / musculoskeletal pain associated with strains or sprains, myositis, fibrositis, bursitis, trauma, disc syndrome and myalgia / arthritis (rheumatoid or hypertrophic) / torticollis / neuralgia.

Dosage

The usual adult dosage is 2 Trancoprin tablets three or four times daily. The dosage for children from 5 to 12 years of age is 1 tablet three or four times daily. Trancoprin is so well tolerated that it may be taken on an empty stomach for quickest effect. The relief of symptoms is apparent in from fifteen to thirty minutes after administration and may last up to six hours or longer.

How Supplied

Each Trancoprin tablet contains 300 mg. (5 grains) of acetylsalicylic acid and 50 mg. of chlormezanone [Trancopal® brand]. Bottles of 100 and 1000.

Trancoprin Tablets / non-narcotic analgesic

References: 1. DeNyse, D. L.: *M. Times* 87:1512, Nov., 1959. 2. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 3. Gruenberg, Friedrich: *Current Therap. Res.* 2:1, Jan., 1960. 4. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 5. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: *Am. Pract. & Digest Treat.* 10:1743, Oct., 1959. 7. Shanaphy, J. F.: *Current Therap. Res.* 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

Winthrop LABORATORIES, New York 18, N. Y.

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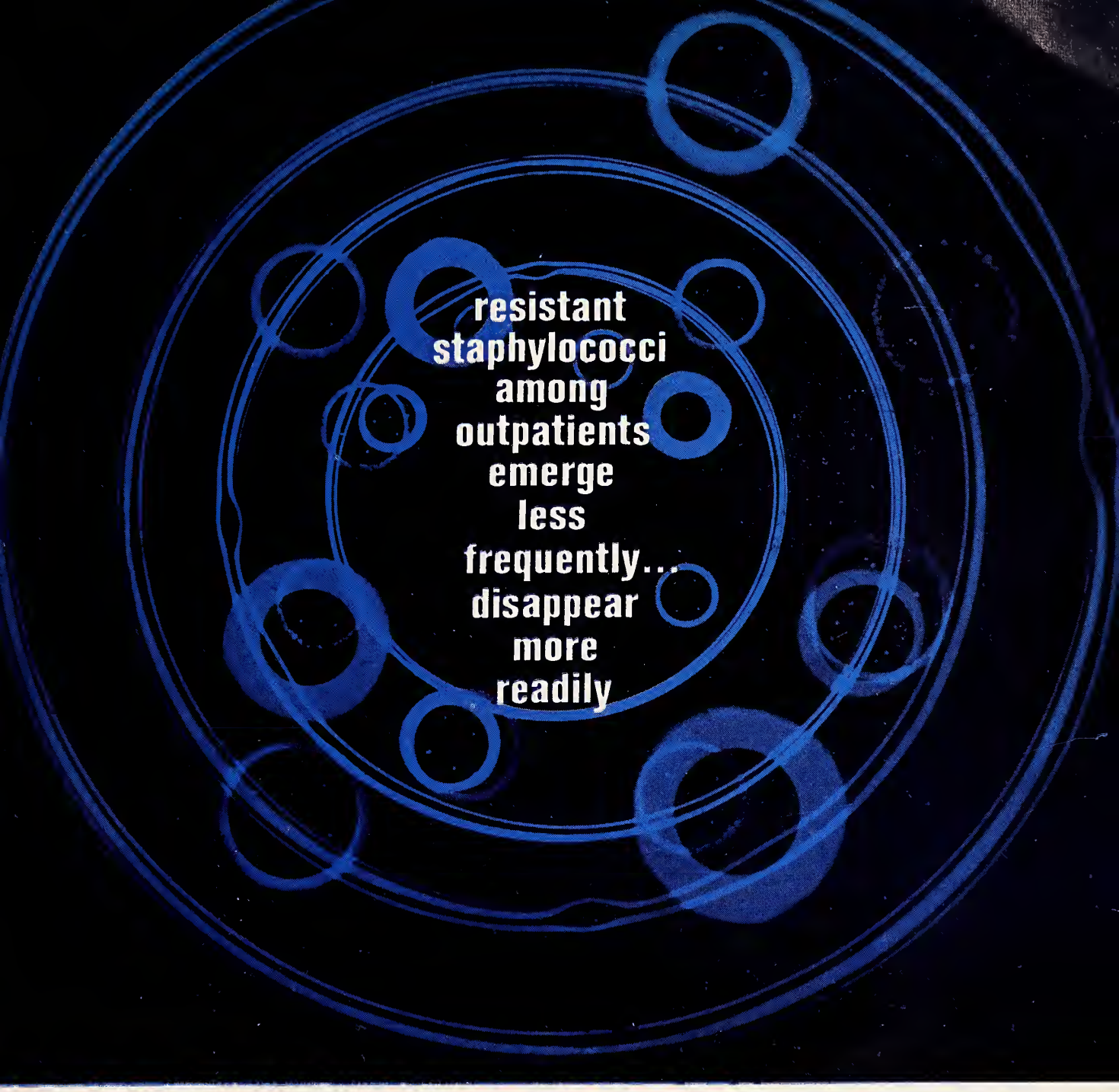
This beautiful, heated swimming pool highlights the spacious lawn and recreation area at Camelback Hospital. Other outdoor activities include volley ball, ping pong, shuffleboard and badminton, all under the supervision of a trained therapist. Those preferring restful relaxation may enjoy a quiet conversation in the beautiful lawn and grove area with its scenic mountain backdrop.

Camelback Hospital



5055 North 34th Street
CRestwood 7-7431
PHOENIX, ARIZONA
OTTO L. BENDHEIM, M.D., F.A.P.A., MEDICAL DIRECTOR

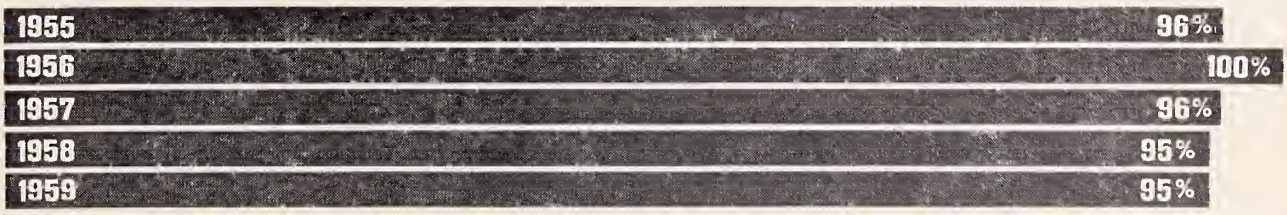
Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.



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IN VITRO SENSITIVITY OF COAGULASE-POSITIVE STAPHYLOCOCCI TO CHLOROMYCETIN FROM 1955 TO 1959*



These sensitivity tests were done by the disc method on 310 strains of coagulase-positive staphylococci. Strains were isolated from patients seen in the emergency room. It should be noted that among inpatients, resistant strains were considerably more prevalent.

*Adapted from Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960.

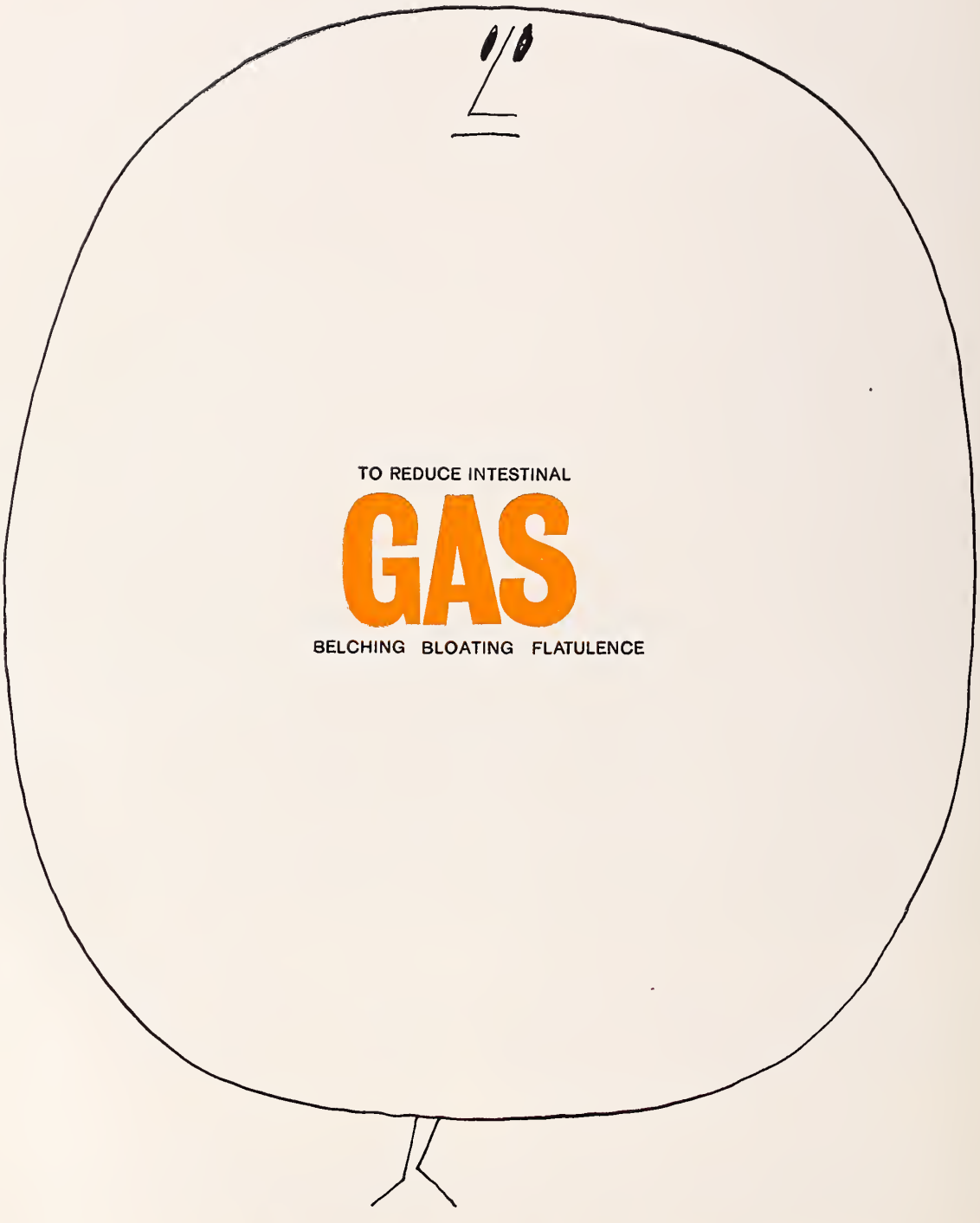
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*References available on request.

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Rx Now widely prescribed for the chronic invalid, the convalescent, the debilitated oldster

Physicians treating the aged and the convalescent have for generations been aware of the restorative power of wine. However, it remained for recent research* to more clearly define its clinical physiological action.

Wine Increases Appetite—Goetzl and co-workers[1] observed a profound stimulating effect on olfactory acuity and appetite, even in anorexia.

Wine Aids Gastric Digestion—Ogden and Southard[2] reported a significant increase in gastric secretion following ingestion of moderate amounts of table wine.

Wine Helps in Cardiology—Prudent quantities of wine are helpful[3] in counteracting depression, anxiety and discomfort in sufferers from heart and coronary disorders.

Wine—"safest of all sedatives..."[4]—A little Port or Sherry at bedtime offers a valuable relaxant to the insomniac and may obviate the need for drug-sedative medication.

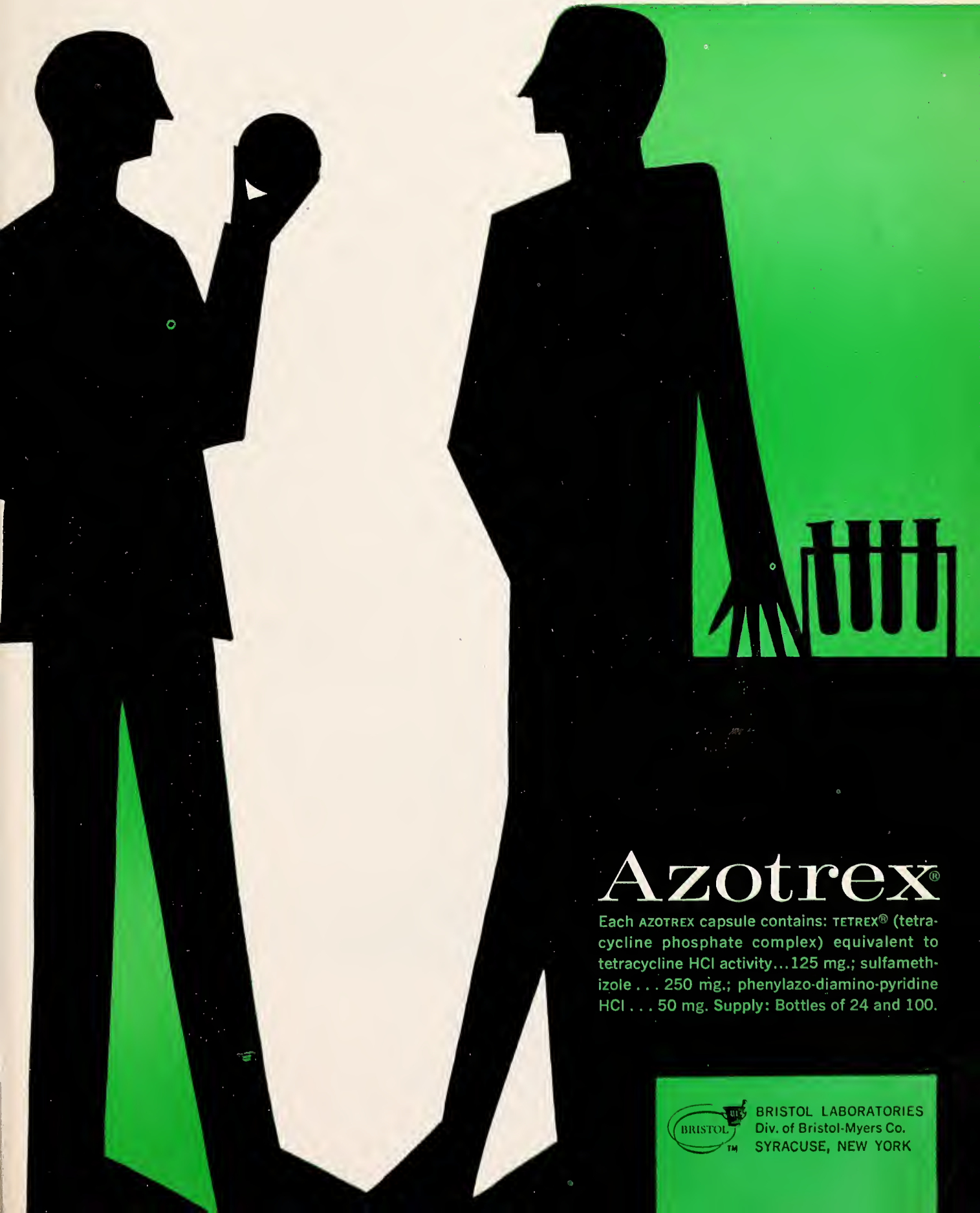
In brief, wine taken with discretion adds greatly to the pleasures of the table, to physical comfort and to mental serenity in the aged, as well as in the chronic sufferer and the convalescent.

Research information on wine is available on request. Write for your copy of *"Uses of Wine in Medical Practice." Wine Advisory Board, 717 Market Street, San Francisco 3, California.

1. Goetzl, F.R.: Permonente Found. M.Bull. 8:72 (April) 1950.
2. Ogden, E., and Southord, F.D., Jr.: Fed. Proceedings 5:77 (1946)
3. Brooks, H.: Med. J. & Rec. 127:199 (1928)
4. Haggard, H.W., and Jellinek, E.M.: Alcohol Explored, New York, Doubleday, Doron, 1942.

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Produces no adverse side effects.

Preferable for the long-term management of a chronic condition.

Brings about reduction of serum cholesterol through physiological processes, as yet not fully understood.

Does not usually generate new compounds in the blood, thus helping the doctor make a more accurate analysis of blood serum cholesterol.

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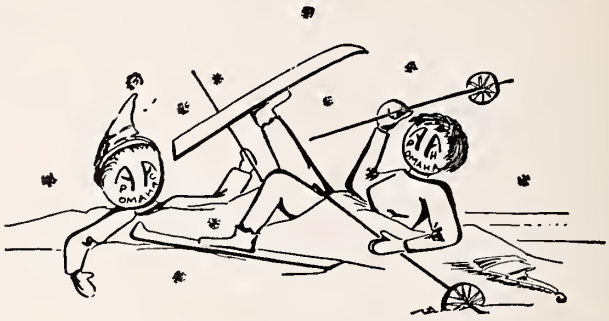


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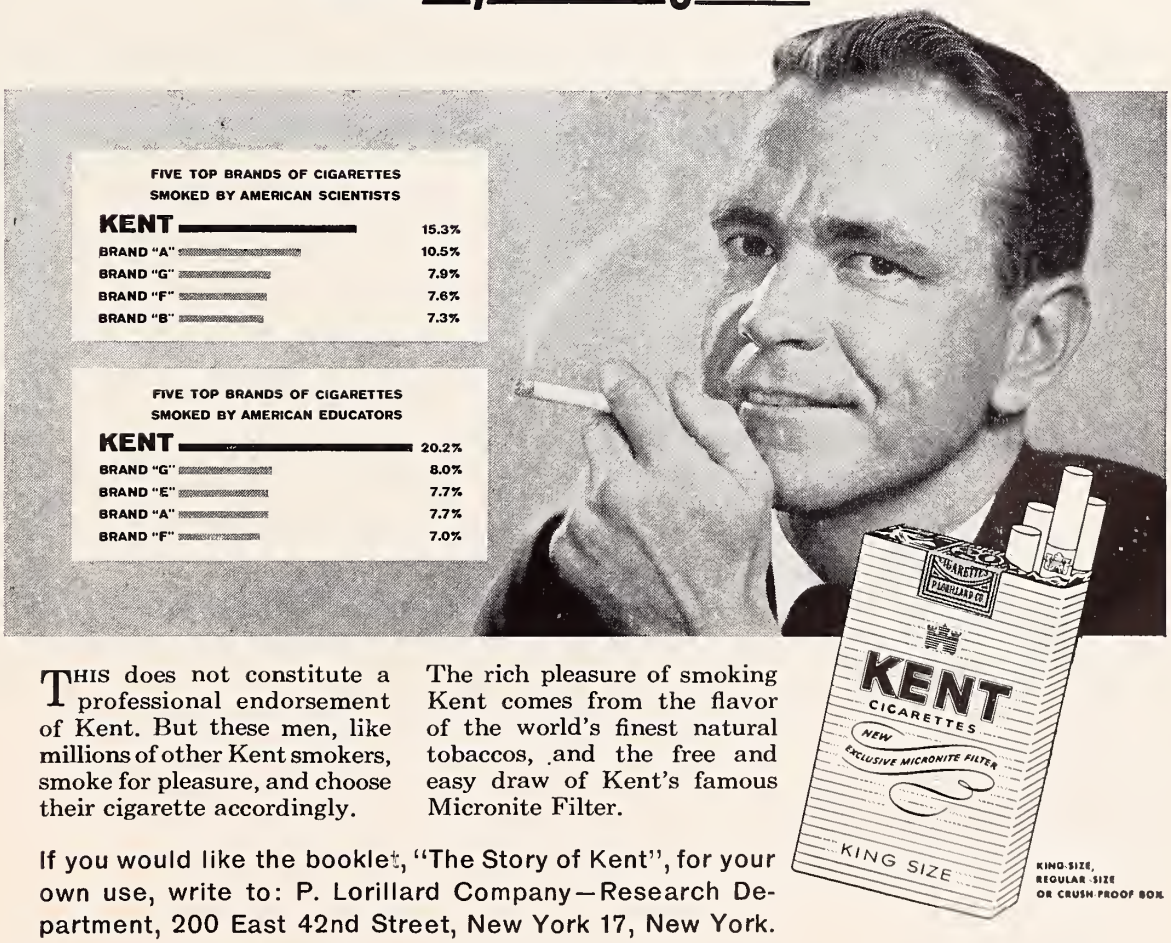
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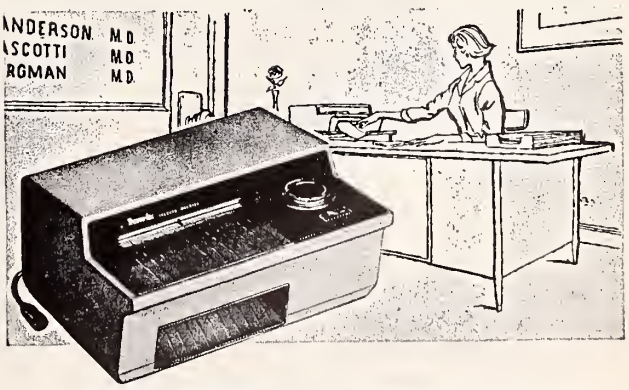
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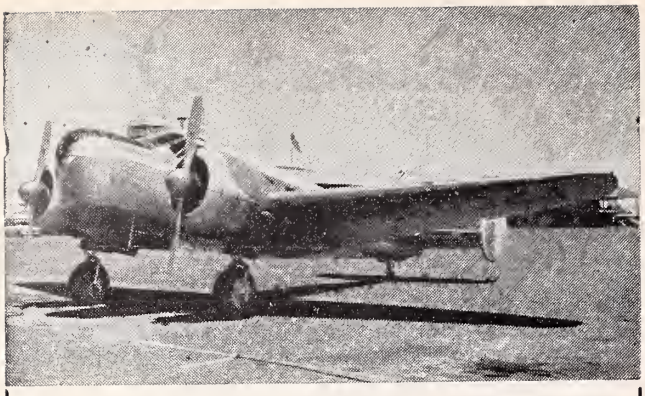
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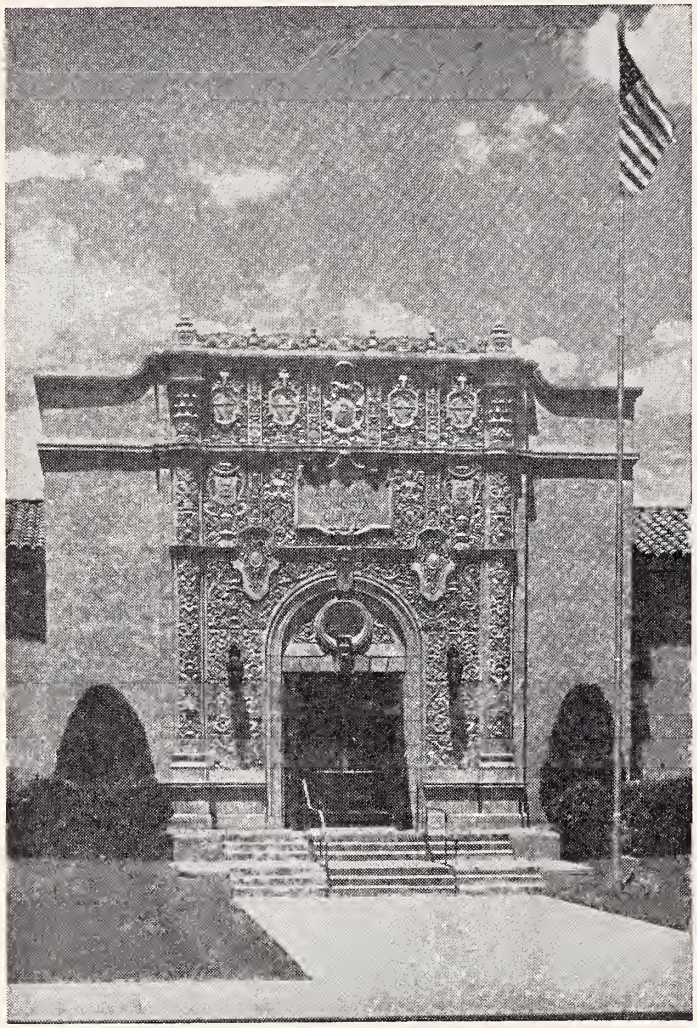
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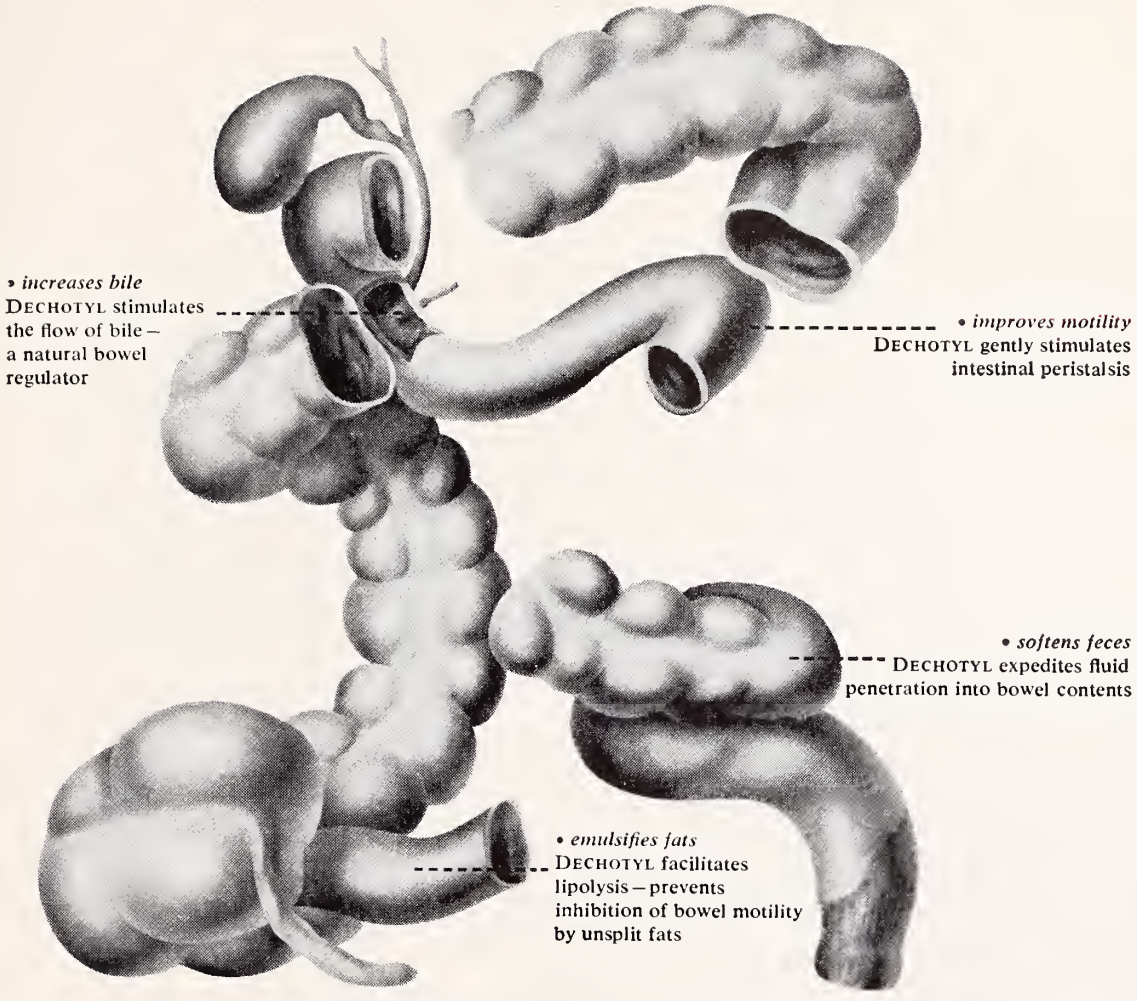
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